A Study into
User Acceptance of New Technology:
British Airways
Ground Transport Department
Heathrow Terminal 5

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Abstract

This project was conducted with the help and encouragement of British Airways (BA) management. It was carried out at Heathrow Airport, Terminal 5 (T5) where a new Resource Management System (RMS) that is based upon Internet Protocol (IP) has been implemented. RMS has replaced traditional pen and paper and radio systems for allocating work tasks to 4,000 airport operational staff.

This research project studied one application of the RMS system; the allocation of tasks to the coach drivers in the Ground Transport Services (GTS) department. The user acceptance of the RMS system by the drivers was evaluated. In the previous 20 years, user acceptance theories have been developed which have shown that increased user acceptance of new Information Technology (IT) projects significantly reduces costs and improves efficiency (Davis, 1980). The most comprehensive theory is that of Sun and Zhang (2006) who identify critical factors regarding individual user acceptance (gender, age, experience, cultural background and intellectual capability). This research project used a case study methodology: three days were spent airside at T5 observing and interviewing a sample of drivers.

The project research question was: 'Can the degree of RMS acceptance by the GTS end-users be determined by factors identified in user acceptance theories?' Essentially, it was not possible to answer this question because of two reasons. First there was little difference in level of user acceptance; it was very high for all users. Second there was also very little difference in the sample and population. The drivers were all male, over 90% between 42 and 65 years of age, with similar levels of experience regarding the RMS technology and computers in general. In addition, it was not possible to measure any difference between the intellectual capabilities of the participants. A difference in the cultural background was identified; there were two ethnic groups, Asian and Caucasian. However, detailed analysis of the responses to the questionnaire demonstrated that there was no evidence of different levels of user acceptance of these groups. Recommendations to improve the testing of user acceptance theories are included in this report.

Acknowledgements

I would like to express my appreciation to those who played an important role in my life through this research study. Many thanks to the support and guidance provided to me by both the University of Chester and British Airways, and the support and understanding of my family, without which this work would not have been possible.

Dedication

This work is dedicated to my new darling daughter Beth April.

Declaration

This work is original and has not been submitted previously for any academic purpose. All secondary sources are acknowledged.

Signed:

Clare K McCool

Date:

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Chapter 1

Introduction

1.1. Background to the Research

In 2009, the Chief Executive of British Airways (BA) reported that losses of the world airlines had exceeded $4 billon in the last three months of 2008 and that forty airlines had already gone out of business during that time and he continued that many others would follow (Walsh, 2009).

In the previous decade the airline industry had experienced a series of extraordinary challenges that drastically changed the industry; the market size of major airlines has reduced, operating costs have risen and income has declined, some airlines have merged and some have become bankrupt (Coby, 2002).

In 2001, BA introduced 'a survival plan', that was critically dependent on technology. The objective was to reduce costs whilst, at the same time, to increase revenue. At that time, BA's Chief Executive Officer (CEO) stated that, "IT could be the vehicle for saving the company" (Eddington, 2002). Coby, (2002) recognises that technology is instrumental in the airline's response to re-establishing themselves. The implementation of IT is a continuous process; it enables BA to do more with less. He continues to identify IT as the main factor in developing a sustained future profitability for the airline and that it is important that Information Management (IM) is open to emerging technologies.

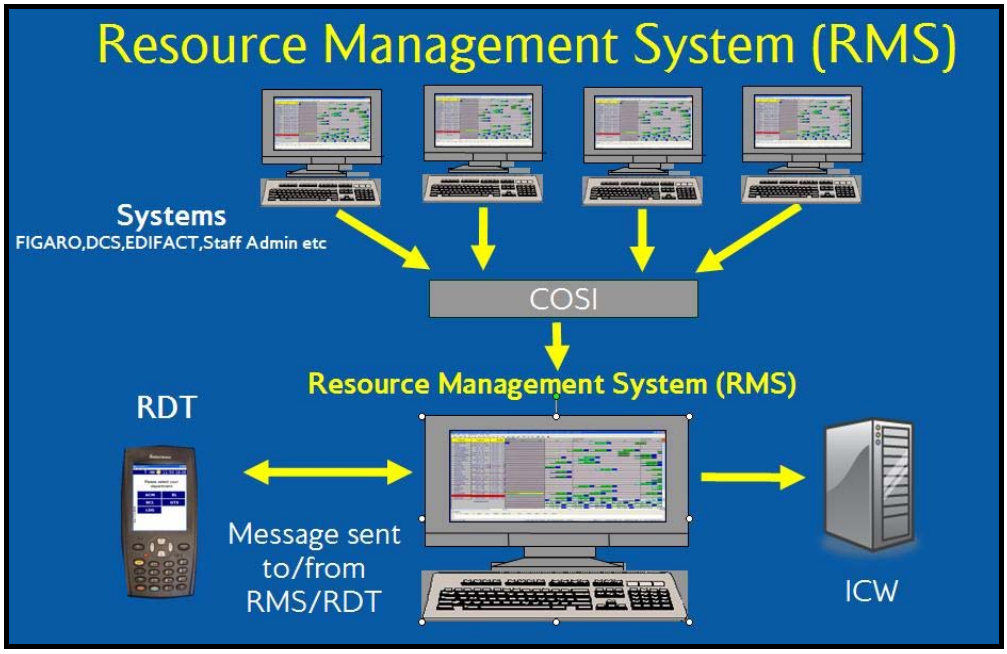
Such an investment in IT has enabled BA to reduce costs which also reduced manpower, whilst at the same time increasing turnover and profitability. In 2001, BA employed 64,000 people and by 2007 this was reduced to 50,000 which brought about a loss of 14,000 jobs (BA Fact Book, 2009). In this period, BA introduced a wide range of new IT business driven projects, for example, on-line booking and check-in, self service kiosks and employee self service.

To obtain major improvements in operational efficiency, BA has transferred most of its ground operation at Heathrow to Terminal 5 (T5), which opened in March 2008. This has enabled BA to implement significant changes in airport working practices based on a wide range of new technologies. BA senior managers strongly suggested that this project should focus on one of the new technologies introduced at T5. Therefore, this study analyses the user acceptance of one of these new technologies. The rationale for this is discussed later in this chapter. Presently, T5 has been in operation for 1 year; hence the timing of this research study was eminently appropriate.

1.2. Technology to be Researched

An annual airline IT survey monitors key trends within the airline industry. In 2007 it identified that the highest priority for airlines regarding new technologies was the movement towards Internet Protocol (IP) enabled systems (Société Internationale de Télécommunications Aéronautiques, SITA, 2007). One of these technologies has been implemented into T5. Resource Management System (RMS) is a task allocation system which replaces traditional pen and paper and radio systems in allocating work tasks for 4,000 airport operational staff. RMS has been implemented into all the main operational areas, including baggage logistics, loading, Passenger Service Units (PSU) and Ground Transport Services (GTS). "The RMS system will include 9,000 connected devices, 2,000 laptops and 1,600 IP telephones" (Computing, 2007). RMS infrastructure is illustrated in Figure 1.1.

Figure 1.1: RMS Infrastructure (BA RDT Driver Course, 2008)



Information is collated from many systems, including airport operations and staff human resources (COSI). RMS data is stored in a warehouse database (ICW) to enable later integration. Allocators manage and allocate tasks to various personnel in each operational area; this is communicated to the personnel carrying out the task by use of a console device.

This research study will analyse and evaluate a small manageable business unit where the RMS system has been introduced. The GTS department was selected, where the end-user is the driver. The drivers console device is known as a Remote Data Terminal (RDT). GTS is responsible for the transport of passengers and air crew from different locations within the Heathrow area. Figure 1.2 illustrates a GTS driver with an RDT.

Figure 1.2: GTS Driver with the hand held Remote Data Terminal (RDT)

GTS was selected because:

- Compared to the total T5 operation, GTS is relatively small with 170 end-users. Hence a sample size can be chosen that is small and representative of the total group.

- In other departments it would be more difficult to evaluate the user acceptance of RMS in isolation as new operational technologies have been introduced at the same time. For example, in the baggage handling department a number of new technologies have been introduced both by BA and British Airport Authority (BAA) and there were numerous start-up problems that may have masked RMS acceptance.

1.3. Research Question and Objectives

The research problem, and the focus of this dissertation, is to determine the degree of user acceptance of RMS in the GTS department. The successful implementation of new technology is determined by a number of factors, including user acceptance. Theories (Davis, 1980; Sun and Zhang, 2006) identify

that user acceptance of new IT technology is influenced by issues relating to technical, organisational and individual issues. These theories are further discussed in more detail in Chapter 2. Therefore the research question is, 'Can the degree of RMS acceptance by the GTS end-users be determined by factors identified in user acceptance theories?'

The objectives are:

1. To establish the degree of user acceptance of RMS by the GTS end- users.

2. To establish if the extent of user acceptance is affected by the individual moderating factors identified in the theories. These would include, gender, age, experience, cultural background, and intellectual capability (Sun and Zhang, 2006).

3. To establish whether the extent of user acceptance is determined by variables referred to as external variables in the literature (Davis, 1980; Sun and Zhang, 2006). These would include perceived ease of use and perceived usefulness, attitudes, subjective norms and behavioural intention. These terms will be discussed in detail in Chapter 2.

1.4. Rationale for Research

Hill (2003) reports that during the past thirty years a correlation between successful implementation of IT systems and user acceptance has been evidenced and he continues that user resistance to new technology has been considered to be "the root cause of many software project failures ".

Cooke, Dudley and William's (1998) research using 186 companies implementing large IT systems concurs stating that "user resistance is the second most important contributor to time and cost over-runs and is the fourth most important barrier to successful implementation". Davis, Bagozzi and Warshaw (1989) also agree recommending that user acceptance can be improved along with the system and its processes if there is an understanding of the rationale for employee's resistance to the introduction of new technology.

Venkatesh, Morris, and Davis (2003) reported that, since the 1980s, 50% of all new capital investment in organisations has been in information technology. Therefore, understanding the factors that influence user technology acceptance and adoption in different context continues to be a focal interest in Information System (IS) research (Sun and Zhang, 2006).

1.5. Methodology

A number of methodologies were considered for evaluating user acceptance. The methodology adopted for this dissertation is based upon a deductive approach where data is collected through an observation of participants whilst using the system, detailed interview with a set number of questions and a general discussion period. This is further discussed in Chapter 3.

1.6. Outline of Chapters

Chapter 1 provides a general background to the airline industry, BA in particular. The research questions are identified and the objectives are stated. A detailed literature review regarding user acceptance theories and identifies the main theory by which the data will be tested is provided in Chapter 2. Chapter 3 discusses the methodology used and the findings are reported in Chapter 4. Chapter 5 analyses the data and compares it to the theoretical models. Chapter 6 lists the conclusions and recommendations and finally Chapter 7 summarises the researchers experience and personal benefits that this work generated.

Chapter 2

Literature Review

2.1. Introduction

Chapter 1 discussed the introduction of the Resource Management System (RMS) into the ground operation at British Airways Heathrow T5. Chapter 2 reviews the literature for user acceptance of new information technology and identifies a number of models of user acceptance. This review has identified the main principles, which will be used in the methodology and analysis of this study.

2.2. Parent Disciplines / Fields

These user technology models can be classified into the general field of 'informatics', which is defined by Beynon-Davies (2002, p. 3) as "the study of information, information systems and information technology applied to various phenomena." Specifically, this dissertation focuses on usability. Beynon-Davies (2002 p. 182) defines information systems' usability as "how easy a system is to use for the purpose of which it has been constructed."

2.3. Research Question Rationale

"Organisations invest in information systems overtly to increase efficiency and/or effectiveness "Beynon-Davies (2002 p. 25). Coby (2009) confirms that this is the case in British Airways when he commented that "the application of Information Technology [IT] has given great benefits to the business efficiency of British Airways". However, studies show that despite these benefits, sometimes there is a reluctant acceptance or even a hostile rejection of the introduction of new Information Systems (IS). For example, a seminal article Davis, Bagozzi and Warshaw (1989, p.982) posited that, "end-users are often unwilling to use

available computer systems that, if used, would generate significant performance gains."

The rationale for user acceptance theories has been based on the correlation that the higher the level of user acceptance of new technology, the more successful the long-term performance of the technology will be. (Davis, 1980, p.218). It is proposed that if there is a better understanding of why end-users resist the introduction of new technology, the acceptance of this technology may be improved resulting in cost savings and improvements in organisational efficiency. For example modifying the technology and/or the manner in which it is introduced may increase the acceptance level of the technology.

> "When planning a new system, IS practitioners would like to be able to predict whether the new system will be acceptable to users, diagnose the reasons why a planned system may not be fully acceptable to users, and to take corrective action to increase the acceptability of the system in order to enhance the business impact resulting from the large investments in time and money associated with introducing new information technologies into organisations.''
>
> (Davis, et al. 1989, p. 999)

Ginsberg (1981, p. 459) posited that at the initial design stage of a new system, a reliably small fraction of the project's resources have been expended. This would appear to represent an appropriate time to measure the user assessment of a proposed system in order to establish an early reading regarding its acceptability. However, the problem has been the lack of effective predictive models of user acceptance. During the 1970s and 1980s, factors that would determine user acceptance were identified:

- The internal belief and attitude of the user. (Swanson 1974, p.178)
- User involvement in system development. (Franz & Robey 1986, p.329)
- The technical design of the system. (Malone 1981, p.333)

- The type of system development process. (King & Rodriguez 1981, p 717)
- The nature of the implementing process. (Zand & Sorensen1975, p 532)

Davis, et al. (1989) identified that the findings from these research studies were inconclusive. He suggested that this might have been due to both the wide range of beliefs and attitudes of the users and the different measurement procedures employed. He further demonstrated that the understanding of user acceptance of new technology could be significantly improved if better models of user acceptance were developed. Behaviour from social psychology was used as a basis for the development of these theoretical acceptance models, which are discussed in more detail in the next section.

2.4. Developments of User Acceptance Theories

2.4.1. Theory of Reasoned Action (TRA) (1970's)

In the 1970s, the Theory of Reasoned Action (TRA), which is a 'widely studied model [of user behaviour] from social psychology,' (Davis, et al 1989 p.983) was developed to explain human behaviour across a wide variety of activities (Ajzen and Fisbein, 1980). According to TRA, an individual's behaviour is determined by their behavioural intention (BI) which is dependent on an individual's attitude (A) and a term referred to as 'subjective norm' (SN). Ajzen and Fisbein (1980) demonstrated the relationship of these terms in the following equation:

$$BI = A + SN \qquad (1)$$

These terms are defined as follows (Ajzen and Fisbein, 1980):

- BI (Behavioural Intention) is defined as a measure of an individual's intention to perform a specific behaviour.
- A (Attitude) is defined as an individual's positive or negative feelings about performing certain behaviour.

- SN (Subjective Norm) is defined as the individual's perception that most people who are important to him, think that he should or should not perform a specific behaviour in person.

For IS research, the major limitation of this theory is that it is a general theory that can be applied to all human behaviour and is not specific for IS.

2.4.2. Technology Acceptance Model (TAM) (1980's)

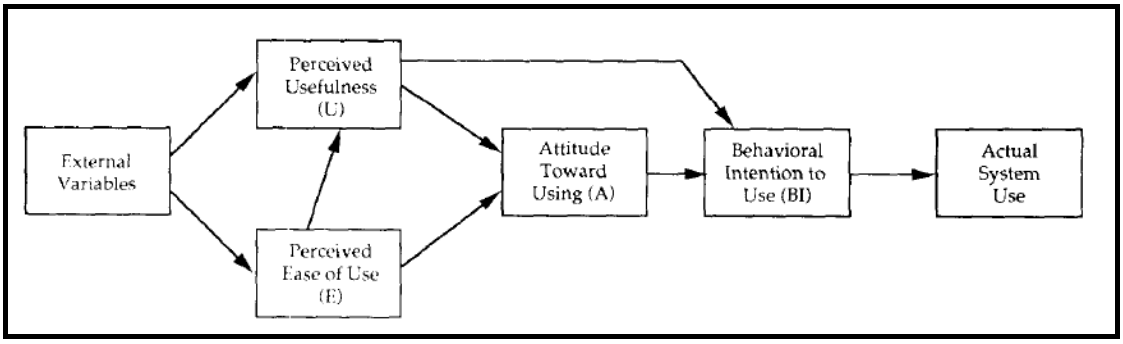
Davis (1980) conducted extensive research and from such findings developed a new user acceptance model specifically for IS. Davis (1980) used TRA as a basis for his Technology Acceptance Model (TAM) of computer usage behaviour. This was a seminal paper and was used as the basis for future developments of the theory (Leong, 2003). The objective of TAM was to develop a theory capable of explaining user behaviour across a broad range of computer technologies and user populations. TAM identified a small number of fundamental variables suggested from previous research. The following two end-user beliefs (often referred to as external variables) were identified as being of primary relevance for computer acceptance theory (Davis, 1980, p. 82):

- Perceived usefulness (U or PU): The degree to which an individual believes that using a particular system would enhance his or her job performance.

- Perceived ease of use (PEOU): The degree to which an individual believes that using a particular system would be free of physical and mental effort.

Davis (1980) suggested that these external variables were related in the following equation and illustrated in figure 2.1.

Figure 2.1: Technology Acceptance Model (Davis, et al, 1989, p.985)



Computer usage is determined by an individual's behavioural intent (BI) and is related jointly by the person's attitude towards the system (A) and perceived usefulness (U):

$$BI=A+U \qquad (2)$$

Davis, et al, (1989) compared TAM with TRA and evaluated the user acceptance of word processing program of 107 MBA students who had been given the option to use a word processing program (WriteOne). The students were interviewed and asked to complete a number of questionnaires. These interviews and questionnaires were designed so that both TAM and TRA could be used to explain a specific behaviour (usage) toward a specific target (WriteOne) within a specific context (the MBA program). A section of the questionnaire asked the students to identify the advantages and disadvantages of the software programme. Another section used a 7-point Likert Scale to rate usage factors, for example, how often the students used the software. Davis et al's (1989) study concluded that:

1. Computer usage can be predicted reasonably well from people's intentions.

2. Perceived usefulness is a major determinant of people's intentions to use computers.

3. Perceived ease of use is a significant secondary determinant of people's intentions to use computers.

4. TAM is significantly better than TRA to predict user behaviour in IS acceptance.

In a later study, Venkatesh and Davis (2000) extended the TAM model to incorporate a third variable, the experience of the user. The model is known as TAM2.

2.4.3. Developments of Other User Acceptance Theories (1990's)

User acceptance theories were further developed to include other external variables by the following workers.

- Ajzen (1991) developed the Theory of Planned Behaviour (TPB) based on TRA.
- Thompson, Higgins and Howell (1991) developed PC Utilisation model (MPCU).
- Taylor and Todd (1995) combined TAM and TPB (C-TAM-TPB).
- Rodgers (1995) developed the Innovation Diffusion Theory (IDT).
- Compeau and Higgins (1995) developed the Social Cognitive Theory (SCT).
- Vallerand (1997) developed a Motivational Model (MM).

2.4.4. Unified Theory of User Acceptance (2003)

Venkatesh, Morris, Davis and Davis (2003) compared the eight models of user acceptance and formulated a unified model that utilised elements from these models. Using data from four different organisations, they compared the eight individual models with their unified model. This work identified that the unified model was significantly better than the eight individual models. In their analysis, they utilised the term 'explanatory power' (R^2), which is a measurement of the actual acceptance compared to the predicted acceptance. The higher the value of the explanatory power, the more significant is the correlation between the actual acceptance and the acceptance predicted by user acceptance theory. The unified theory had an explanatory power factor (R^2) of 69 %, whereas the eight individual models had lower explanatory power factors (R^2) ranging from 17 to 53 %.

2.4.5. Integrative User Acceptance Model (2006)

In 2006, Sun and Zhang recognised two major limitations of existing theories:

- The relatively low values of explanatory power (R^2)
- The inconsistent relationships between the reported field studies

From a systematic analysis, ten moderating factors were identified, which were categorised into three groups, organisational, technological and individual user factors.

Based upon this approach Sun and Zhang (2006) developed an integrative model. This theory appears to be the most advanced theory of user acceptance, as it incorporates more moderating factors than any of the earlier theories. Therefore, the methodology in this research will be mainly based upon Sun and Zhang's (2006) theory, which will be discussed in more detail later.

2.5. Testing of User Acceptance Theories in IS Studies

The previous section discussed the chronological developments of user acceptance theories. Research workers have tested these models in a number of situations. The objective of this analysis is to determine the most suitable procedures of the methodology for this research study.

2.5.1. Evaluation of User Acceptance in the Aviation Industry

The literature was reviewed to determine the testing of these theories in the aviation industry. Unfortunately, no published studies were found. These searches included:

- IS journal searches, such as ACM, Management Science, and MIS quarterly.
- IS report searches, produced by Gartner Research, inc.(NYSE: IT). Gartner conduct IT research and produce insight reports for a number of companies, including BA.

- Aviation trade magazines searches, such as Airline Business: Reed business.
- Contact with Airline industry IT suppliers, such as SITA.
- Contact with Airline regulators, such as International Air Transport Association (IATA).
- Internal BA networking with special focus on IM senior managers involved in implementing business change for the adoption of Capability Maturity Model Integration (CMMI) process and its certification in BA.
- Internal BA networking with special focus on project managers/leads that have been responsible for implementing new technology to process workers, in business units , for example, airport operations, customer service and finance.

Testing of user acceptance in other industries was reviewed in particular there were similarities to this RMS study.

2.5.2. IS Systems in a Hospital Environment (2000)

Rawstorne, Jayasuriva and Caputi (2000) evaluated user acceptance of IS in a hospital setting using TAM and TPB models and evaluated the user acceptance by nurses of a Patient Care Information System (PCIS). The objective of the PCIS system was to improve patient care and hospital administration.

Details of the study are as follows:

- This technology was mandatory.
- Nurses were able to access PCIS through a networked computer located in the nurses' stations.
- The same nurses collected data from a questionnaire on two different occasions (1-2 weeks and 2-4 months after introduction).

- 138 nurses participated in the study, but only data from 61 nurses were utilised due to the attrition rates in nursing staff.
- Anonymous code protected the confidentiality of the nurses.
- Three types of behaviour of the nurses were studied.

The authors concluded that both TAM and TPB were poor predictors of the actual behaviour of the users. They identified weaknesses in both theories and areas where significant improvement could be obtained.

This study was reviewed because like RMS, PCIS technology was mandatory and the objective was to improve efficiency.

2.5.3. IT Company in the Pacific US Northwest (2003)

Leong (2003) evaluated TAM and TRA models for 250 employees of a branch office that provided systems support for marketing and sales activities in a multinational company headquartered in New Jersey. Details of the study were:

- User acceptance of MS Access was studied.
- Questionnaires were sent to 250 employees.
- 118 respondents completed and submitted the questionnaire.
- 114 out of 118 completed questionnaires were used.
- TAM and TRA were found to predict intentions and usage to an acceptable level.
- Compared to TRA, TAM was simpler and easy to use.
- Compared to TRA, TAM was a more powerful model evaluated in a number of different ways.

Results indicated that:

1) Perceived usefulness and perceived ease of use were related to usage of MS Access.

2) Management support and system quality were not related to usage of MS Access.

This study was reviewed specifically because of the questionnaires, as the questionnaire will be an integral part of this research study.

2.5.4. Evaluation of End-User Resistance to Mandatory IT (2007)

Klaus, Wingreen and Blanton (2007) evaluated user acceptance of information systems in an Enterprise System (ES) environment. ES is a system whereby system processes are re-engineered; hence acceptance of the ES technology is mandatory. This research evaluates types of end user resistance to implementation of new technology in three different organisations. User acceptance theories were applied and conclusions of the work identified eight types of ES resistance and recommended respective best management strategies. This research study was reviewed because the technology was similar to RMS in that it was a radical change to the overall system processes. RMS can be considered to be a re-engineering of airport operations at Heathrow.

The next section discusses the most comprehensive study to date. Sun and Zhang (2006) reviewed 69 research studies. From this work they developed an integrative user acceptance model. This model and the research studies on which it was based are now reviewed.

2.6. Integrative User Acceptance Model (2006)

Sun and Zhang (2006) implemented a comprehensive literature review of 69 research studies. These studies are summarised in table 2.1

Table 2.1: Research studies reviewed by Sun and Zhang (2006)

	Item	No. of studies	
1	Total number of studies reviewed	69	100%
	Laboratory studies	10	14%
	Field studies with knowledge workers	42	61%
	Field studies with students	17	25%
2	Subjects		
	Students	27	39%
	Employees	7	10%
	Knowledge workers	5	7%
	Doctors	3	4%
	Internet users	2	3%
	Sales staff	2	3%
	Programmer	1	1%
	Broker	1	1%
	General User	1	1%
3	Technology		
	Microcomputers & multifunctional workstations	7	10%
	Software Communication software (e.g. voice mail, customer dial-up systems, e-mail systems, on-line meeting manager) Internet systems (e.g. WWW, University computing, on-line shopping, personal computing) General software (e.g. Windows, text editor, word perfect, spreadsheets, database application, data & information retrieval, telemedicine) Specialised software (e.g. graphics software, software maintenance tools, configuration software.)	62	90%

Using this data, Sun and Zhang (2006) evaluated existing theories and determined that there were two major limitations of existing theories. First, the Explanatory Power (R^2) had relatively low values. This term was defined in section 2.4.4.

The second limitation was the inconsistent relationships between the reported field studies.

Based on this analysis, these workers incorporated the strengths of each theory into a general theory referred to as the integrative user acceptance model. Sun and Zhang (2006, p.65) identified ten moderating factors, which were categorised into three groups, organisational, technological and individual factors. The organisational and technological factors will be discussed first.

Table 2.2 defines the moderating factors in organisational and technological categories and defines each factor.

Table 2.2: Organisational and Technology Moderating factors

Categories	**Moderating Factors**	**Definition / Explanation**
Organisational	Voluntariness	The extent to which users perceive the adoption decision to be non-mandatory (Moore and Izak, 1991).
	Task/ Profession	How the perceived ease of use (PEOU) is affected by the nature of the task (routine vs. non-routine), and the nature of the profession (mainly collaboration or mainly autonomous).
Technology	Individual/ Group	Individual technologies aim to improve individual productivity. Group technologies aim to facilitate group co-ordination and to support cooperation and collaboration among a group of users.
	Purpose	Work orientated vs. entertainment orientated technology.
	Complexity	The effect of whether the technology is simple to learn (e.g. communication technology) or more complex and hence more difficult to learn. (e.g. spreadsheets)

Applying Sun and Zhang (2006) theory for RMS, demonstrates that only the individual user factors are variables. The organisational and technological factors are fixed. RMS technology is mandatory, the tasks are routine, it is a collaborated group system, the purpose is work orientated and the level of complexity is low. Sun and Zhang's (2006) conclusions regarding organisational and technological factors are summarised in table 2.3.

Table 2.3: Sun and Zhang (2006) Conclusions Regarding Organisational and Technological Factors

Categories	**Moderating Factors**	**Conclusions regarding external variables:** **1) SN: Subjective Norm** **2) BI: Behavioural Intention** **3) PU: Perceived Usefulness** **4) PEOU: Perceived Ease Of Use**
Organisational	Voluntariness	1) The influence of SN on BI is stronger in mandatory contexts than in voluntary context. 2) The moderating effects of voluntariness wearing off over time.
	Task/ Profession	1) PEOU is stronger on BI for non-routine tasks. 2) PEOU is weaker on BI for highly independent tasks/profession. 3) SN is weaker on BI for less independent tasks/profession.
Technological	Individual/ Group	1) SN has more influence for BI for group technologies. 2) SN has more influence on PU for group technologies.
	Purpose	1) PU has more influence on BI for work-orientated technologies. 2) PEOU has less influence on BI for work orientated technologies.
	Complexity	1) PEOU is stronger on BI for more complex technologies. 2) PEOU is stronger on PU for more complex technologies.

The individual user category has five moderating factors age, gender, intellectual capability and cultural background. These are defined in table 2.4

Table 2.4: Individual User Moderating Factors

Moderating Factors	Definition / Explanation
Age	Woo and Schmitter-Edgecombe (2008) showed that often the increased age can be related to increased difficulty of learning
Gender	Sun and Zhang (2006, p. 67) showed that: • Decision-making processes by women and men are different. • Men are more task orientated. • Men are more motivated by achievement needs. • Women have higher computer anxiety. • Women have lower computer confidence. • Women have a greater awareness of others' feelings. • Women use e-mail more for developing relationships.
Experience	A combination of the number of years a user has worked with : • Computers in general. • Specific technology being evaluated.
Intellectual capability	Intellectual capability is difficult to define. It may be related to the educational level and IQ of the individual but is really trying to focus on such factors as learning ability, and retaining knowledge (absorptive capacity).
Cultural background	Culture is defined as "a collective programming of the mind which distinguishes the members of one group with another". Hofstede defined (1993) Four dimensions of culture are • Power distance. • Individualism / collectivism. • Masculinity/Femininity. • Uncertainty avoidance. Power distance • The degree of inequality amongst the population. • Population is relatively equal (small power distance). • Population is extremely unequal (large/high power distance). Individualism/Collectivism • Individualist societies people prefer to act as individuals rather than as members of a group. • Collective societies people learn to respect the group to which they belong. Masculinity/Femininity • Tough values: assertiveness, performance, success and competition. • Tender values: quality of life , maintaining warm personal relationships, service, care for the weak and solidarity. Uncertainty avoidance is: • Defined as the degree to which people in a culture prefer structured over unstructured situations. • Structured situations are those where there are clear rules on how one should behave. • Structured situations have a high degree of uncertainty avoidance.

Sun and Zhang's (2006) conclusions regarding Individual User Moderating Factors are summarized in table 2.5.

Table 2.5: Sun and Zhang's (2006) Conclusions regarding Individual User Moderating Factors

Moderating Factors	**Conclusions regarding external variables:** **SN: Subjective Norm** **BI: Behavioural Intention** **PU: Perceived Usefulness** **PEOU: Perceived Ease Of Use**
Gender	1) The effects on PU on BI are stronger for males. 2) The effects of PEOU on BI are stronger for females. 3) The effects of SN on BI are stronger for females.
Age	1) PU has stronger influence on BI for younger users. 2) PEOU has less influence on BI for younger users. 3) SN has less influence on BI for younger users.
Experience	1) PEOU has less influence on BI for experienced users. 2) PEOU has less influence on PU for experienced users. 3) BI has more influence on actual usage for experienced users. 4) SN has less influence on BI for experienced users. 5) SN has less influence on PU for experienced users.
Intellectual Capability	1) The effect of PU on BI is stronger for those who have stronger intellectual capacities. 2) The effects of PEOU on BI are stronger for those who have weaker intellectual capacities. 3) The effects of SN on BI are stronger for those who have weaker intellectual capacities.
Cultural Background	1) PU has less influence on BI for users in high power distance cultures. 2) SN has more influence on BI for users in high power distance cultures. 3) PU has more influence on BI for users in high individualism cultures. 4) SN has less influence on BI for users in high individualism cultures. 5) PU has more influence on BI for users in masculinity cultures. 6) SN has less influence on BI for users in masculinity cultures. 7) PU has less influence on BI for users in a high uncertainty avoidance culture. 8) SN has more influence on BI for users in a high uncertainty avoidance culture.

From this analysis, Sun and Zhang (2006) suggested that all the moderating factors influence most of the relationships. Therefore, all the moderating factors should be considered when studying user acceptance.

However, for the application of Sun and Zhang's (2006) theory for this RMS project it has already been shown that the organisational and technological factors are fixed, as such cannot be tested. Testing can only be carried out on the individual user factors of age, gender, intellectual capability and cultural background. Hence, the hypothesis of this research study can be stated as follows:

"The user acceptance of the new RMS technology can be directly correlated with the individual user moderating factors as defined in current user acceptance theories".

Chapter 3

Methodology

3.1. Introduction

This chapter discusses the project's methodology including the planned procedures that were to be carried out. The following chapter (Chapter 4) reports the actual procedures that were carried out and the reasons for doing so.

In this project, field data was collected and compared to theories published in the literature. A case study method, one of the scientific approaches identified by Galliers (1991, p.349), was used. During a three-day site visit to T5 Heathrow, data was collected from a sample of end-users, GTS drivers, from three sources:

1. Observations of the drivers using RMS.
2. Detailed questionnaire in an interview situation.
3. Free flowing discussion between the researcher and the participants.

The procedures used for determining the structure of the observations, interviews and questionnaires are discussed.

3.2. Hypothesis

The hypothesis of this research, as stated previously in Chapter 2, is:

'The user acceptance of the new RMS technology can be directly correlated with the individual user moderating factors as defined in current user acceptance theories.'

Specifically, this project has evaluated the actual user acceptance of the new RMS system by the GTS drivers at BA T5 at Heathrow.

3.3. Methodology

It was intended to conduct a project that would have significant business relevance to BA. On that basis the review of recent and relevant literature leading to the hypothesis influenced the methodology which had four parts.

1. Identifying the project
2. Detailed planning
3. Determining the research approach
4. Development of the procedures to be used

3.3.1. Identifying the Project

General discussions were held with BA senior management to identify the particular project, which evoked a positive response and encouragement from the BA management team. BA management identified that the most current and important business investment was the new T5 at Heathrow. The investment in T5 has been £5 billion, including an IT investment of £250 million (British Airways fact book, 2009). BA management suggested that the IT project should be related to T5. This project, as discussed in Chapter 1, was a study of user acceptance of the new RMS system. RMS, which is a task allocation system, replaces the traditional written and radio systems used previously. It is used to allocate tasks for 4,000 airport operational staff. To make the project manageable, it was decided to focus on a small group of end-users of the RMS system. These end-users were the coach drivers within the Ground Transport Services department. The rationale for this choice will be discussed later.

As the researcher is based in Manchester it was recognised that there would be challenges carrying out the project at T5. However, the researcher felt that the ability to evaluate a technology that would dramatically change the working practices of BA would be worth the extra effort in conducting the research remotely.

Details of the discussions with BA senior management are summarised in Appendices A-1 and A-2. It should be noted that these discussions were started in November 2006, before T5 was opened. However, the timing of the project had to be rescheduled on a number of occasions due to higher priority issues at T5 and continuous restructuring within BA.

3.3.2. Detailed Planning

After the project concept was defined, detailed discussions were held with critical members of Information Management and Ground Transport Services at Heathrow. These discussions are summarised in Appendices A-3 and A-4.

The GTS department was chosen because:

1. RMS was the only new technology to be introduced in this period to this department. In other departments it would be more difficult to determine the acceptance of RMS, as in many instances, new operational technologies have been introduced at the same time. For example in the baggage handling department a number of new technologies have been introduced by both BA and BAA (British Airport Authority) and it would be more complex to determine user acceptance of RMS.

2. Compared to the total T5 operation, GTS is relatively small, with 173 drivers.

3. GTS drivers were chosen as they were RMS end-users that used the technology in a simple way.

4. The basic operation of the coach transport system had not changed and it would be relatively simple to determine the user's acceptance of RMS.

After these discussions, BA senior management approved the project (Appendix A-5). In addition, to conduct this project, it was necessary for the researcher to travel with the coach drivers. As the large majority of the GTS work was based airside, it was necessary for the researcher to apply for a temporary BAA airside

pass (Appendix A-6). GTS coaches were used to transport passengers and crew members to and from the aircraft and terminal building. Transportation between the terminals was carried out by other organisations, for example, BAA. T5 represents about a third of the Heathrow site having approximately 95 aircraft stands. Maps of Heathrow and T5 are given in Appendix A-7.

3.3.3. Determining the research approach

The general experimental procedure is given in Appendix B-1. This compares the planned methodology and the actual actions. The actual actions will be discussed in more detail in Chapter 4. Galliers (1991), who preferred to use the term 'approach' rather than 'method', has classified research approaches into two groups, scientific and interpretivist. Scientific approaches, also known as empirical approaches, use numerical data and are suitable for technical projects. Interpretivist approaches use qualitative data and are more suitable for social projects relating to human activity.

Table 3.1 provides a list of approaches identified by Galliers (1991, p149). In addition, approaches are defined and comments offered regarding the suitability of the each approach for this research project.

Table 3.1: Suitability of research methods for this project

	Method / approach	Definition	Suitability	Comments
1	Laboratory experiment	Identification of precise relationship between variables in a controlled environment.	Not suitable	Complex system, with many interdependent variables. Can not be easily simplified and modelled. It would be difficult to reproduce the GTS operation system in a laboratory environment.
2	Field experiment	Experiments in a realistic environment.	Not suitable	This approach would require changes in the GTS operation. Essentially attempts would be made to control some of the variables. This would be very difficult to achieve.
3	Forecasting	Identifies future trends on past data using techniques such as regression & time series analysis.	Not suitable	Forecasting is not one of the objectives of this project.
4	Simulation	An attempt to copy system behaviour that would be difficult or impossible to solve analytically.	Not suitable	Would be difficult to devise a simulation that accurately reflects the real world of airport operations within the GTS department for technology acceptance models. However, simulation approaches regarding RMS have been an essential part of the testing prior to T5 opening.
5	Action research	Similar to case study except that the presence of the researcher will effect the situation.	Not suitable	Action research requires the researcher to carry out actions that would change the GTS operation. This is not in the scope of the project.
6	Theorem proof	Collection of information to test theories.	Suitable	This project would evaluate scientific theory.
7	Survey	Snapshots of practice situations at a specific point in time using questionnaires or interviews.	Suitable	An end-user survey would be beneficial as the RMS system had been mandatory for the GTS drivers for 18 months and as such had been optimised. However, this approach alone would not provide the full information required to define the hypothesis for the GTS environment, as viewing the actual use would be equally as important. Interviews were implemented in this study.
8	Case studies	Attempt to describe relationships that exist in reality within a single group.	Best Option	In a case study, information is collected to determine the details of the operation. The case study was deemed the best approach to use but to also include a survey and theorem proof.

As table 3.1 illustrates, a case study approach was chosen as it best matched the needs of this project. This case study approach would also include a survey and a theorem proof. In addition, as quantitative data was collected in the survey, this could also be considered to be an interpretivist approach. Hence, the methodology approach used in this project had both scientific and interpretivist features, as this case study was intended to "capture reality in greater detail and analyse more variables than other approaches"(Galliers 1985, p. 292-294).

3.3.4. Development of the procedures to be used

It was intended that the following steps would be taken:

1. Data on the total population of GTS drivers was to be obtained from GTS management.
2. Selection of a representative sample of based upon step 1.
3. A 3-day site visit (3 x 8 hour shifts) working with the GTS drivers to:
    a. Observe/shadow their use of RMS.
    b. Interview following a standard questionnaire.
    c. An open discussion regarding participant's views on RMS.
4. Data analysed based on the theory of Sun and Zhang (2006).

It was necessary to conduct the three actions of observation, interview and open discussions because:

- Three distinct types of information would be obtained.
- Shadowing is an observation process that enables observations regarding how the participant uses RMS.

- The questionnaire will ask questions to determine the user acceptance of this technology. Questions would be structured so that the factors identified in the theories will be quantified.

3.4. Sample Selection

It was intended that the following steps would be conducted in determining the sample selection of the GTS drivers:

1. Data of the total population of GTS drivers would be requested three months before the site visit.

2. This data would be analysed for individual factors related to user acceptance theories. These factors are discussed in further detail later.

3. Based upon this analysis the distribution of the population would be determined.

4. A representative sample would be identified.

3.5. Participant Consent

Prior to conducting the study, the participant's were presented with an information sheet (Appendix B-3) describing the details of the study. These were discussed with the participants, to ensure that they understood the rationale for the study, what would be expected from them and how their information would be used and protected. It would be stressed that this study was totally confidential and that it was only carried out for the researchers M.Sc dissertation. In addition it would be made explicit that this study was not for BA and only general information would be given to BA. The participants would not be identified and the report would be written in such a way that their actions, answers to the questionnaires and general comments would not be able to be identified by anyone other than the researcher.

It was also intended that the researcher would ask the participants to sign a consent form agreeing to their participation in the study (Appendix B-2).

3.6. Participant Observation

It was intended that the researcher would conduct participant observations of GTS drivers. The researcher would act as a "complete observer", as defined by Oates (2006). The researcher's role was passive and no action is taken by the researcher that could interfere or change the behaviour of the participant. Approval was obtained from BA management for the researcher to 'shadow' staff. In fact, this 'shadow' procedure is a standard method used in the BA organisation for training staff. In this research study the 'shadow' procedure was used to observe and record information.

The GTS operational base is located at the South Ancillary Area (SAA), airside at T5. At all times, the researcher was required to be escorted by the GTS shift manager or the participant. At the beginning of each shift the GTS shift manager introduced the researcher to the driver and the researcher would spend about 1 hour with each participant whilst driving duties were conducted. A worksheet was designed to record participant identity with a code only known to the researcher, approximate time spent with each participant, participant's use of RMS, general aspects of the task and general comments relating to the RMS system (Appendix B-4). At the end of the observation and interview, the participant would drive the researcher to the SAA building where the researcher would be escorted back to the GTS shift manager. At no time would the researcher be allowed to be unaccompanied whilst airside.

3.7. Participant interview procedure

It was intended that GTS driver interviews would be conducted after the participant observation. The GTS shift manager planned to allocate the work so that the participant would have time to spend with the researcher. It was important that all the interviews would be conducted in a non-threatening

environment. Interview rooms in the SAA building were booked by the GTS shift manager for these interviews. However, the researcher felt the interviews would be more effective when conducted with the participants in their coach environment if this was possible.

3.8. Design of questionnaire

The questionnaire was designed to obtain data relating to factors identified by user technology acceptance theories, summarised figure 3.1.

Figure 3.1:

An integrated model, including moderators (Sun and Zhang 2006, p.65)

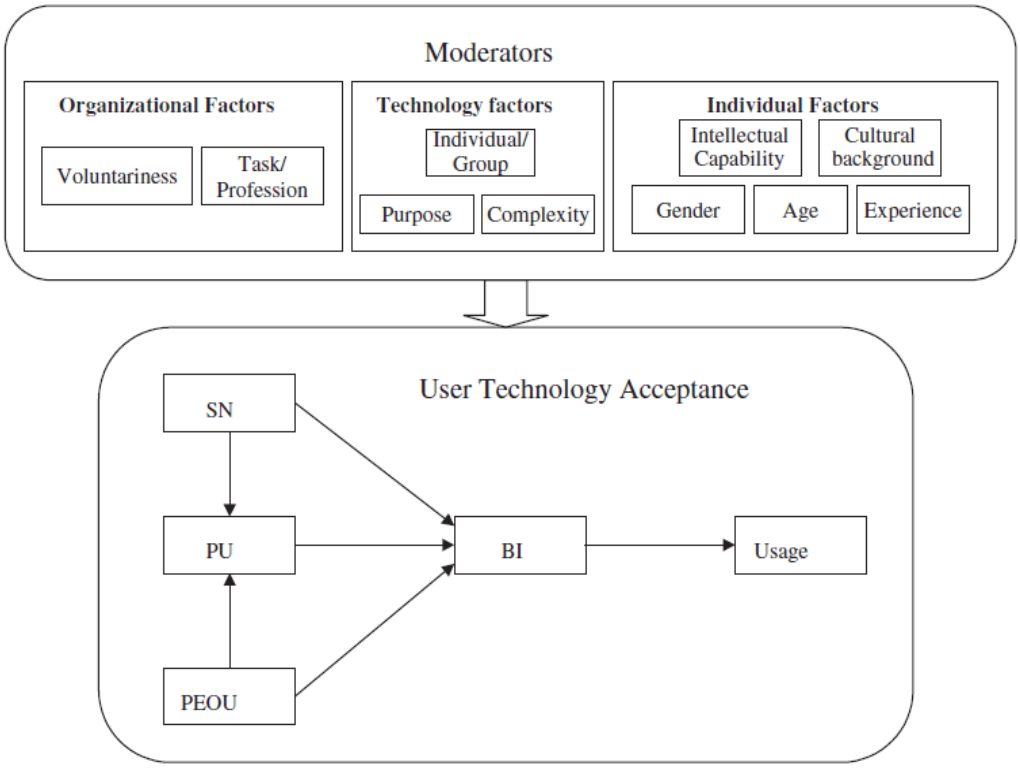


Figure 3.1 shows that there are three classes of moderating factors. In this theory Sun and Zhang (2006) identified ten moderating factors. However, in this specific research project only five of these factors vary. They are the individual factors relating to the end user, these are, gender, age, experience, cultural background and intellectual capacity.

The other five factors are none variable factors for this research project. Hence are not evaluated. These factors are coded and illustrated in table 3.2.

Table 3.2: Moderating factors identified by Sun and Zhang (2006)

Code	Factors	Moderators	RMS Level of Measurement
OV-F	Organisation	Voluntariness	Fixed (not tested)
OV-TP	Organisation	Task/Profession	Fixed (not tested)
TF-IG	Technology	Individual/group	Fixed (not tested)
TF-P	Technology	Purpose	Fixed (not tested)
TF-C	Technology	Complexity	Fixed (not tested)
IF-G	Individual	Gender	Variable (tested)
IF-A	Individual	Age	Variable (tested)
IF-E	Individual	Experience	Variable (tested)
IF-IC	Individual	Intellectual Capability	Variable (tested)
IF-CB	Individual	Cultural Background	Variable (tested)

As discussed in Chapter 2, Sun and Zhang (2006) used these moderating factors to identify relationships between the user technology acceptance theories. The lower diagram in figure 3.1 shows the relationship between perceived use, and ease of use with actual use, attitude and behavioural intention. These terms, known as external variables are explained in table 3.3

Table 3.3: External Variables from User Acceptance Theories

Code	External Variables	Details
BI	Behavioural intention	Measure of an individual's intention to perform a specific behaviour.
A	Attitude	Individual's positive or negative feelings about performing certain behaviour.
SN	Subjective norm	Individual's perception that most people who are important to him think that he should or should not perform a behaviour in question.
U or PU	Perceived usefulness	The degree to which a person believes that using a particular system would enhance his or her job performance.
PEOU	Perceived ease of use	The degree to which a person believes that using a particular system would be free of effort.
Usage	Actual usage	Actual usage.

The questionnaire was intended to quantify the five individual moderating factors and the five external variables. A range of Likert style statements were developed. The detailed interview questions are given in Appendix B-5

The format of the questions can be summarised as follows:

- 113 total questions
- 58 Likert style questions
- 29 nominal questions (yes/no format)
- 12 open questions intended for participants comments

The questionnaire had two discrete parts:

1) Sections 1 to 5 determined the external variables:
    a) Section 1: 15 questions relating to perceived ease of use (PEOU).
    b) Section 2: 13 questions relating to perceived usefulness (U or PU).

c) Section 3: 7 questions relating to subjective norm (SN).

d) Section 4: 10 questions relating to attitude (A).

e) Section 5: 7 questions relating to behavioural intention (BI).

2) Sections 6 to 9 measured the individual moderating factors:

a) Section 6: 6 questions relating to information on the participants including gender and age (IF-G and IF-A).

b) Section 7: 5 questions relating to cultural background (IF-CB).

c) Section 8: an attempt to determine the intellectual capability of the participants. As many researchers have noted (Horn, 1991), it is extremely difficult to measure the intellectual capability of participants, and that if the participants recognise that this is an attempt to measure their intellectual capability they will react in a very negative way. Hence, this section was labelled 'skill sets' with 20 questions regarding education and personal interests (IF-IC).

d) Section 9: 28 questions on experience (IF-E).

The order in which the questions were asked was important. Hence, the questionnaire was structured so that the generic questions relating to external variables, for example, perceived ease of use, were asked first. Questions relating to personal factors were asked later in the interview, when a rapport would have been established between the researcher and the participant.

All the questions were created by the researcher based upon interpretation of the literature. Some questions were repeated in a different form to check the validity of the answers and possible bias of the participants.

3.9. Managers' Questionnaire

Although the major objective of this work was to evaluate end-user behaviour, it was also thought that it may be of interest to compare the end-users actual behaviour with the perception of BA management. A short one page questionnaire was designed for this purpose (Appendix B-6), along with a covering e-mail that would be sent to selected managers who were critical to the success of RMS.

3.10. Ethics

An ethics form relating to this research project was submitted and approved by the ethics committee in May 2008. Many of the ethical issues have been discussed earlier in this chapter for example:

- The confidential nature of the participant's identity and answers was discussed. It was intended that the participants' names would only be known to the researcher and would be coded.
- Participants would be made aware that if they were uncomfortable they could withdraw from the study at any time without any consequence.
- The attempt to determine the intellectual capability of the participants would be conducted in a gentle, non-threatening manner and would be referred to as an evaluation of skill sets.

Chapter 4

Findings

4.1. Introduction

This chapter documents the information that was collected on the site visit to T5. The actual procedures that were carried out are compared to the planned procedures in the methodology given in Chapter 3. The findings documented in this chapter are analysed and compared to user acceptance theories and discussed in Chapter 5.

The information can be categorised into the following classes:

1. Population data
2. Sample data
3. Comparison of sample and total population
4. Summary of participant observation
5. Summary of participant interviews
6. Summary of participant questionnaire
7. Summary of participant comments

4.2. Population data

Initially it was planned that the population data would be obtained before the visit. This data would then be analysed and a selected sample of the population would be identified for the site visit. Unfortunately, this data could only be obtained after the site visit. Hence, during the site visit a random sample of the population had to be taken.

The population data (Appendix C-1) is illustrated in five tables. This data was collected to attempt to identify the five individual moderating factors identified in Sun and Zhang (2006) user acceptance theory. These are gender, age, experience, intellectual capability and cultural background. The first table lists all 173 GTS drivers providing their gender, age group, cultural background and experience. The terms are defined as follows:

Gender: Male/Female.

Age group: Only two age ranges are reported because the theories to be tested only classify the participants as younger users (under 42) and older users (over 42).

Cultural background: It was difficult to identify the cultural background of the population, as this kind of information is not available. However, it was decided that the first name and surname was a good indication of the individual's cultural background.

Experience: User acceptance theories define experience as number of years experience with computers in general, and the technology being evaluated. The RMS technology has been in use by the population for 18 months. As there has been no new drivers employed in the last 2 years all the population have had equal experience with RMS. In table 4.1 the experience was based upon years employment at BA, more detailed participants' experience is captured in the questionnaire. In the next chapter, an attempt is made to determine whether there is a correlation between years experience at BA and user acceptance. Again, this was an indicator of a level of experience rather than an absolute measure.

Intellectual capability: There was no available information on the intellectual capability of the total population. This was to be expected because of data protection and BA human resources policy. In the interview process of the sample, questions were included to attempt to ascertain and evaluate the intellectual capability of the participants.

The data was coded so that participants could not be identified. Table 4.1 summarises the results:

Table 4.1: Total Population Summary Data

Moderating factors	Classes	Number	Percentage
Gender	Male	170	98.3%
	Female	3	1.7%
Age	Below 42	6	3.5%
	Above 42	167	96.5%
Cultural Background	Asian	85	49.1%
	Caucasian	88	50.9%
Experience (working with BA)	<1yr	0	0.0%
	1-5yrs	8	4.6%
	6-10yrs	8	4.6%
	11-20yrs	69	39.9%
	20+ yrs	88	50.9%
	Total	173	100%

The total population was very homogeneous. It is 98% male, 96% over 42 years of age and 91% had worked for BA for 11 years or more. Only the cultural background category evidenced significant differences with two main ethnic groups that were approximately equal: 51% Caucasian and 49% Asian.

4.3. Sample data

As explained earlier, the sample taken was a random sample and not a selected sample, due to the population data not being available prior to the site visit. In this section the random sample will be compared to the population data.

In the three 8 hour shift periods, it was only possible to work with 14 participants due to time restrictions. Data on these 14 participants are provided in Appendix C-2.

4.3.1. Comparison of sample with total population

A detailed comparison of the sample with the general population is carried out in Appendix C-3. This comparison is summarised in table 4.2. Although 14 participants were observed, one participant refused to take part in the interview procedure as the end of his shift was approaching. As such moderating factors and measurement terms for this participant were not captured and the sample was reduced to 13 participants. Table 4.2 compares the sample with the general population.

Table 4.2: Comparison of Sample and Total Population

Moderating factors	Classes	Total population	Percentage	Sample	Percentage
Number		173	100%	13	7.5%
Gender	Male	170	98.3%	13	100%
	Female	3	1.7%	0	
Age	Below 42	6	3.5%	1	7.7%
	Above 42	167	96.5%	12	92.3%
Cultural Background	Asian	85	49.1%	8	61.5%
	Caucasian	88	50.9%	5	38.5%
Experience (working with BA)	<1yr	0	0.0%	0	0.0%
	1-5yrs	8	4.6%	0	0.0%
	6-10yrs	8	4.6%	0	0.0%
	11-20yrs	69	39.9%	6	46.2%
	20+ yrs	88	50.9%	7	53.8%
	Total	173	100%	13	100%

Table 4.2 compares the sample with the total population, it can be seen that:

1. 13 people were interviewed. This represented 7.5% of the population.

2. The correlation between the gender of the sample and population is very good. In the sample 100% were male, where as in the population 98% were male.

3. The correlation between the age groups of the sample and total population is very good. In the sample 92% were above 42 years of age, where as 97% of the population were above 42 years of age.

4. The correlation between experience in the sample was good. In the sample 100% had more than 11 years experience with BA, where as 91% of the total population had more than 11 years experience with BA.

5. Regarding cultural background, there was some difference in the population and the sample. The population was 49% Asian, and the sample was 62% Asian. However, it should be remembered that the cultural background of the participants was identified with more accuracy than that of the population. In the interview process, there were 5 questions regarding cultural background, whereas the population's cultural background was estimated solely using the likely culture indicated by their names.

Nevertheless it would be possible to make the sample more representative of the population. In Appendix C-3, a theoretical calculation is shown that suggests that repeating the site visit with 3 additional participants could provide a more representative sample. It was shown that these 3 additional participants would all be Caucasian and above 42 years of age. The experience would vary as follows:

- 1 participant with 1-5 years experience.

- 1 participant would have 6-10 years experience.

- 1 participant would have over 20 years experience.

However, the first step would be to analyse the data that has been collected to determine if there were any trends with regards to age, cultural background, experience and intellectual capability. It should be noted that there are too few females in the population (3), and no females in the sample so it will not be possible to test any gender based correlation.

The data collected from the sample of participants is more detailed than that of the population. This is discussed in the questionnaire section later in this chapter.

4.4. Participant Observation

The details of the participant observation are given in Appendix C-4. Participants were observed as they went about their duties. Prior to discussing the findings of this work, it would be beneficial to briefly explain the drivers expected use of the system.

4.4.1. Participants use of RMS

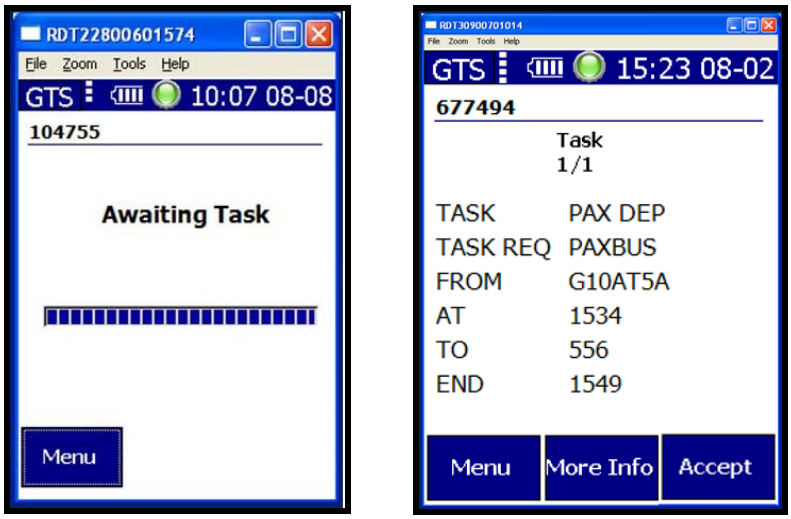
RMS is the software, using a windows XP operating system. Drivers receive their tasks from a handheld console known as a Remote Data Terminal (RDT). The RDT is the hardware device that uses touch screen technology, illustrated in figure 4.1.

Figure 4.1: RDT hand held device (BA RDT Driver Course, 2008)

General use of the RDT

- Buttons on the RDT are disabled. Only the touch screen can be used.
- The RDT has visual and audio communication link between the allocator and the driver. The touch screen is a two-way communication, whereas the audio functionality (equivalent to a mobile phone), can only be used by the allocator to call the driver. The driver can request the allocator to call by a button on the touch screen.
- Drivers are issued with a fully charged RDT at the start of their shift. Drivers are expected to retain this device with them at all times throughout their shift, as it is the only means of communication between the driver and the allocator.
- Drivers sign on to the RMS system at the start of their shift, and only sign back off again when their shift has finished. Figure 4.1 shows the sign on screen on the RDT.
- Once the driver signs on, a task is automatically assigned. Figure 4.2 shows 2 screen shots of tasks being allocated and the details of the task to be conducted.

Figure 4.2: RDT Display (BA RDT Driver Course, 2008)



The basic task details of are displayed on the screen. The task on figure 4.2 shows a request to coach passengers from the departure gate 10 at T5A to an outbound aircraft, located at stand 556 at T5. The present time now is 15.23. The allocator requires the driver to be ready to depart passenger gate 10 at 15.34. RMS calculates that this journey should take 15 minutes, and requires the passengers to be at the aircraft at 15.49 for an on time aircraft departure.

Further information about the task can be supplied from the allocator, this is indicated when the 'more info' button is highlighted in red.

There are 5 basic RMS commands to each task that the driver must conduct. This informs the allocators of each stage of the task. For RMS to record the most accurate information, it is most important that the driver performs these actions timely. These actions are:

1. Accept: Press when task received, acknowledgement of task to be conducted.

2. Arrived: Press when in position, for example, at a departure gate or aircraft stand.

3. Set off: Press when all passengers/crew on board and coach journey has begun.

4. Arrived: Press when arrived at destination/drop off point.

5. End: Press when task has been successfully completed.

It is also worth noting that there is a menu button that allows the driver to logoff, or request a call back from the allocator. There are 3 options for this request, which are dependent on the priority of the query. 'Call me' for non-urgent queries, 'task delay' if delayed on the task and 'urgent problem' option for use in emergencies only. The menu screen is illustrated in figure 4.3.

Figure 4.3: RDT display showing request for contact options (BA RDT Driver Course, 2008)

4.4.2. Procedure for observation of participants

The researcher arrived at T5 on Friday 27 February 2009. Three days were spent airside working an 8 hour shift each day observing the GTS team. The previous day a graduate trainee, who carried out a 3 month secondment in the department, had inadvertently left a copy of her report on the printer. This report, which was highly critical of many of the GTS personnel, was widely circulated throughout the department. As such, the start of this research project was initially met with suspicion from many, if not all the participants. The researcher worked hard to counteract these negative feelings.

Detailed notes on the observations of the participants are given in appendix C-4. The researcher observed 14 participants using the RMS system. An average of 70

minutes was spent with each participant, and this included the observation, questionnaire and open discussion.

During the 3 x 8-hour shift periods, 18 tasks were allocated and completed. These included:

- 13 tasks: Coaching passengers from the T5 departure gate to the T5 aircraft stand.
- 1 task: Coaching passengers from the T5 aircraft stand to T5 international arrivals.
- 4 tasks: Coaching flight crew from the T5 aircraft stand to the T5 international arrivals.

When the participants were driving, the RDT was stored in a holder next to the driver. Out of the 18 tasks, the researcher was able to view the usage very easily on 16 tasks. However, there were two occasions where this was not possible. On occasion, the observation seat was unavailable. The other was due to an older design of bus being used, and only the driver had a view of the RDT.

4.4.3. Summary of observations

The researcher's observations are summarised as follows:

1. The participants' use of all five basic RMS commands was observed.
2. It was observed that many commands conducted were timely. For example, 'set off' command was pressed within seconds of the driver setting off to coach the passengers to their destination. However, it was noted that one participant did not 'end' his task once the task had finished; the end task was confirmed only after the interview had been completed. It was also noted that one participant logged off the RDT device before the interview was conducted.
3. On some occasions, participants were forced to by-pass the system, and conduct tasks that are not allocated through RMS. For example, it was

4. One of the participant's RDT experienced battery issues, and the holder in the coach did not charge the RDT. The allocator had called the participant on the RDT to suggest he exchange the hardware after his current task had been completed.

5. 3 of the 14 participants also recorded their tasks on paper.

6. One user had to swap eyeglasses to view the RDT screen.

4.4.4. Observation Conclusions

In summary, the user acceptance of the technology was very high. Of course, this is a mandated technology so it would be expected that the user acceptance would be high. If the user acceptance had been at a lower level, then more examples of the end user trying to by-pass the technology may have been evident, for example using the radio more often. However, only a few incidents of this nature occurred.

4.5. Procedure for participant interviews

Although 14 participants were observed, only 13 participants were interviewed. The participant interview was deliberately scheduled to occur following the observation period. In virtually all cases the researcher successfully established a very good rapport with the participant before the interview took place. The interview had two parts, a structured questionnaire and a free flowing open

discussion. The interviews took place on the coach for approximately twenty minutes. During the interview, the researcher ensured that the participant could see the questions and an A4 sheet with large font showing the Likert Scale response options.

4.6. Participants' Questionnaire

The detailed results of these interviews are tabulated in Appendix C-5 and Appendix C-6. Appendix C-5 tabulates all the responses or answers to the questionnaire. Appendix C-6 compares the individual responses based upon the assigned value of the responses as discussed below

4.6.1. Calculation procedures

Appendix C-5 calculations

The table 4.3 gives an example of the analysis of the data.

Table 4.3: Method of Calculations (Extract from Appendix C-5)

Section 1: **Measurements : Perceived ease of use : (Table A-1 : PEOU)** The degree to which a person believes that using a particular system would be free of effort.								Sample Population	Weighted Avg
How would you rate the following comments :									
Number	**Question**	**Level of Measureme**	**Results**						
			5	**4**	**3**	**2**	**1**		
1.01	The user interface is easy to use	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX XXXX	XXX					
		Total	10	3				13	4.8
			77%	23%	0%	0%	0%		

Each answer is marked with an 'X'. For example in question 1.01, 10 (77%) of the participants totally agreed and 3 (23%) agreed. A weighted average was calculated as follows. Each answer was given a value ranging from 5 for 'Totally Agree' to 1 for 'Strongly Disagree'. The value for each answer was then multiplied by the number of participants who selected that box, and the total was divided by the total number of participants. For this question the weighted average was 4.8, which is very close to the value 5 for 'Totally Agree'.

To give a visual impression of the results of the questionnaire, the box with most of the answers was coloured blue, and the box that lies closest to the weighted average is coloured yellow.

Table 4.4: Questionnaire Results - Calculation of Possible Correlations (Extract From Appendix C-5).

Section 2: **Measurements : Perceived usefulness : (Table A-1: U or PU)** The degree to which a person believes that using a particular system would enhance his or her job									Sample Population	Weighted Avg
How would you rate the following comments :										
Number	**Question**	**Level of Measurement**	**Results**							
			5	**4**	**3**	**2**	**1**			
2.04	RMS response times are acceptable	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree			
			XX	XXXX	XX	XXXXX				
			2	4	2	5			13	3.2
			15%	31%	15%	38%	0%			
		Culture	AA	AAC	CA	CACCA				
		Asian	4		1	3			8	
		Caus	1		1	3			5	
		Asian	50%			38%				
		Caus	20%			60%				
		Experience	HL	LHH	HHL	LHLHL				
		11-20 yrs	2		1	3			6	
		20+ yrs	3		2	2			7	
		11-20 yrs	33%			50%				
		20+ yrs	43%			29%				

A further example of data analysis is shown in Table 4.4. For questions that had a range of answers, an attempt was made to determine any trends by inserting the answers from each ethnic background and each level of experience. The reason why no other factors were analysed will be discussed later. Two groups were identified, group 1 ('Totally Agree' and 'Agree') and group 2 ('Disagree' and 'Strongly Disagree'). The answers for 'Totally Agree' and 'Agree' are added and similarly for 'Disagree' and 'Strongly Disagree'.

Appendix C-6: Calculations

In this analysis of the individual responses of questionnaire, the following was carried out:

- All the answers were assigned a value ranging from 1 to 5, as discussed in Appendix C-5.

- The assigned values of all answers for each participant are tabulated for each section of the questionnaire (Tables C6-1.1 to C6-1.9).

- For example –Section 1

Table 4.5: Participants' Answers Based on Assigned Values-Section 1 (C6-1.1)

Section 1	Participant												
Question	11	15	35	73	75	83	112	114	118	129	150	157	171
1	4	5	5	5	5	5	4	5	5	5	5	4	5
2	4	5	5	2	5	5	4	5	5	5	5	4	5
3	4	5	5	5	5	5	4	5	5	5	5	5	5
4	5	4	3	4	2	3	4	5	5	5	5	5	5
5	3	2	4	2	3	3	3	1	5	3	2	2	3
6	4	5	5	5	5	5	4	5	5	5	5	5	5
7	4	5	5	5	5	5	4	5	5	5	5	5	5
8	4	5	5	5	5	4	4	5	5	5	5	5	5
9	4	5	5	5	3	4	4	5	5	5	5	5	5
10	4	4	5	5	5	5	4	5	5	5	5	5	5
11	4	5	5	5	5	3	4	5	5	5	4	3	5
12	4	5	5	5	2	5	4	5	5	5	5	3	5
13	4	5	2	5	4	5	4	5	5	5	5	3	5
14	5	5	5	5	5	5	5	5	5	5	5	5	5
15	1	1	1	1	1	1	1	1	1	1	1	1	1
Avg	3.9	4.4	4.3	4.3	4.0	4.2	3.8	4.5	4.7	4.6	4.5	4.0	4.6
												Average	4.3
												Range	0.8
												Range(%)	19%

Table 4.5 shows that the average values of the responses for each participant are calculated for the 15 questions in this section. In addition, the Average of all these averages is calculated. Finally, to provide an indication of the distribution of responses, the following are calculated:

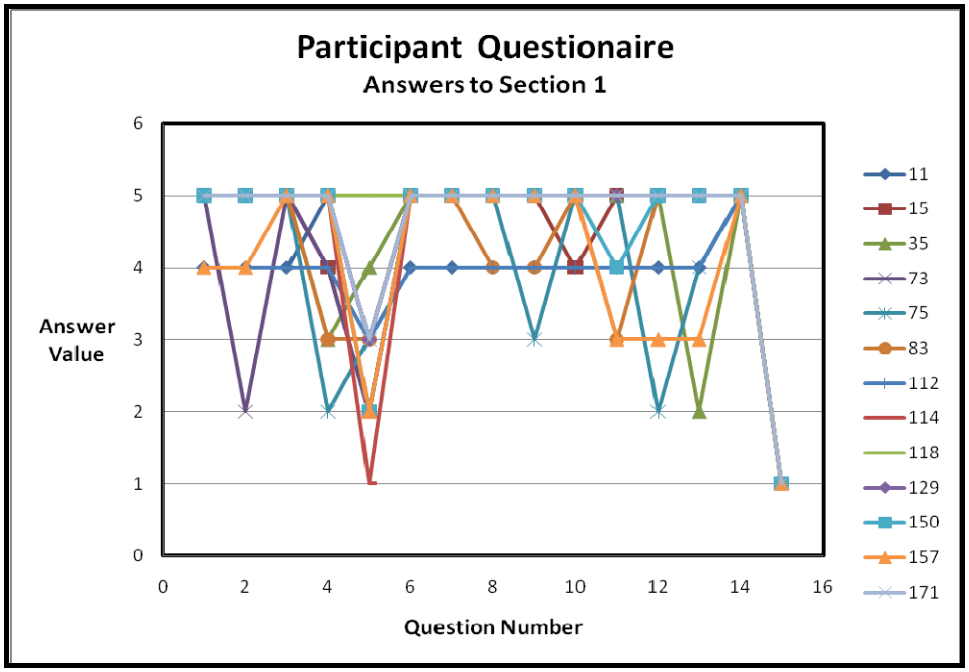
1. Range = (highest value) – (lowest value).

2. Range % = (Range) / (Average)

Essentially these calculations show that there is very little difference between the responses of the participants for Section 1.

In addition, an attempt was made to give a visual impression of the distribution of answers. This is shown in figure 4.4:

Figure 4.4: Distribution of answers to section 1 questions



It was anticipated that this figure would indicate how similar the answers were, based on the results in table.

- A summary table compares the average of the values of the answers for each section (Table C6-2).
- A table compares the average values of the answers for Asians and Caucasians (Table C6-3).
- A table compares the average values of the answers for different levels of experience (Table C6-4).
- A graph illustrates the profile of the answers of each participant for Section 1 (Fig C6-1).
- A graph illustrates the profile of the average answers of each participant for all sections of the questionnaire (Fig C6-1).

4.6.2. Questionnaire Results

The questionnaire was designed to gather data on each of the external variables and moderating factors as defined in the user acceptance theories. The results are summarised as follows:

Section 1: Perceived Ease of Use

1. There were 15 questions in this section.
2. The responses were overwhelmingly positive; with 12 of the answers 'Totally Agreed' as the most selected answer.
3. Only question, 1.05 'Messages are confrontational' generated a significant range of responses. This statement was intended to illicit criticism of the ease of use. 16% 'Totally Agreed' or 'Agreed' and 39% 'Disagreed' or 'Strongly Disagreed'.
4. In response to Question 1.14, to 'what degree would you rate the RMS system easy to use?' all participants selected the highest value which was 80-100%.
5. The calculations in Appendix C-6 show that there is very little difference between the responses of the participants for Section 1.
6. The major conclusion from Section 1 is that all the participants perceived the RMS system easy to use.

Section 2: Perceived Usefulness

Perceived usefulness is defined as the degree to which a person believes that using this specific technology would enhance their job performance (Davis, 1980).

1. There were 13 questions in this section.
2. Answers were overwhelmingly positive with 8 of the questions having 'Totally Agreed' as the most common answer.

3. Only 3 questions generated a significant range of responses.

    a. 2.03 'I can rely 100% on the information that RMS gives me'. 23% of participants 'Totally Agreed' whereas 67% either 'Disagreed' or 'Strongly Disagreed'.

    b. 2.04 'The RMS response times are acceptable'. 46% either 'Agreed' or 'Totally Agreed' whereas to 38% 'Disagreed'.

    c. 2.05 'The RMS response times cause me delays'. 38% either 'Agreed' or 'Totally Agreed' whereas 23% 'Disagreed' or 'Strongly Disagreed'

4. Question 2.12 'to what degree would you rate the RMS system useful'. 62% gave it the top rating 80-100% and the remaining 38% rated it in the band 60-79%.

5. The major conclusion is that all the participants perceive that the RMS system has a high degree of usefulness.

Section 3: Subjective Norm

Subjective Norm is defined as the individual's perception that most people who are important to them think that they should or should not perform the behaviour in question (Davis, 1980).

1. There were 6 questions in this section.

2. The 'Totally Agree' box was the most commonly selected (5 out of the 6 questions).

3. Only 1 question that generated a significant range of responses was question 3.01: 'RMS system significantly reduces BA cost.' 46% 'Totally Agreed' whereas 38% 'Disagreed'.

4. Results for questions 3.05 and 3.06 are:

    a. 3.05: 'The other drivers use the RMS system correctly' 38% were neutral.

    b. 3.06: 'Managers believe that the RMS system is correctly used by the drivers' 38% were neutral.

5. The major conclusion was that no evidence could be found that showed any correlation between the subjective norm and user moderating factors.

Section 4: Attitude

Attitude is defined as an individual's positive or negative feeling about performing a specific behaviour. (Davis, 1980)

1. There were 11 statements in this section.

2. The 'Totally Agreed' box was the one that was selected most often. (7 out of the 10 questions).

3. 2 questions generated a significant range of responses:

    a. Question 4.04: 'The RMS system has protected jobs'. 23% either 'Totally Agreed' or 'Agreed' and 23% 'Disagreed' or 'Strongly Disagreed'.

    b. Question 4.07: 'The RMS system has directly caused job losses'. 39% 'Totally Agreed' or 'Agreed' and 23% 'Disagreed' or 'Strongly Disagreed'.

4. The major conclusion was that no evidence could be found to show that the attitude of the participants varied.

Section 5: Behavioural intention

Behavioural intention is defined as a measure of an individual's intention to perform a specific behaviour. (Davis, 1980)

1. There were 7 statements in this section.
2. For all the questions the 'Totally Agreed' box was the most preferred response (7 out of 7).
3. Only one question generated a significant range of responses.
    a. Question 5.06: 'I would recommend the RMS system to be used in other organisations'. 77% 'Totally Agreed' or 'Agreed' whereas 15% 'Disagreed'.
4. Question 5.04: 'if this was a voluntary system I would choose to use it'. 85% 'Totally Agreed'.
5. The major conclusion was that there is a very high level of the individual's intention to use the RMS system.

Section 6: Individual Factors: Age And Gender

Please refer to section 4.03 of this chapter where this information was reported.

Section 7: Individual Factors: Cultural background

Cultural background is defined by Hofstede (1993) as "a collected programming of the mind that distinguishes one member of a group to another". There were two main ethnic groups that were represented in the sample as approximately equal. Regarding the answers to these questions, the data was edited to avoid identifying the participants. For example, one participant was born in a relatively small country. This was not revealed as the participant could have been identified.

Participants responded as follows:

1. There were 5 questions in this section.
2. 62% identified themselves as Asian and 38% Caucasian.
3. 92% considered themselves to be British.
4. 46% were born in the UK, 31% in India, and 23% elsewhere.
5. 58% of the participants parents were born in India, 27% in the UK and 15% were born in other areas.
6. The major conclusion is that there are only 2 ethnic groups, Asian and Caucasian.

Section 8: Individual Factors: Intellectual Capability

Intellectual capability is difficult to define, Horn (1991). It maybe related to educational level and IQ of the individual and is an attempt to measure such factors as the ability to learn and retain knowledge. This is sometimes referred to as absorptive capacity.

Responses are summarised follows:

1. There were 20 questions in this section.
2. Questions 8.01 to 8.05 determined the participant's educational level.
    a. About 70% of the participants entered the workforce at 20 years old or under.
    b. None of the participants had a university degree, but all had professional education/training. But only one had adult further education.

3. Questions 8.06 to 8.20 determined the participants interest and leisure activities .

    a. 77% regularly read a newspaper, the most common of which was the Daily Mail.

    b. The majority did not do crosswords, play Sudoku, play chess or dominoes, and did nor participate in pub quizzes. However, 54% did play cards regularly.

    c. 54% regularly read magazines, but 31% had not read a book in the last year.

    d. 54% regularly watched the news on TV.

    e. None played a musical instrument, 69% spoke at least one foreign language.

4. The major conclusion was that no evidence could be found of any significant difference in the intellectual capability in the participants.

Section 9: Individual Factors: Experience

Experience is defined as a combination of the number of years that a participant has worked with computers in general and with the specific technology being evaluated (Sun and Zhang, 2006). In addition, experience working at BA and within the role has also been captured.

Participants responded as follows:

1. There were 28 questions in this section.

2. Questions 9.01 to 9.04 determined the participant's experience within BA and the role.

    a. The participants were very experienced within this role, ranging from a minimum of 6 years to over 20 years experience.

b. 62% had been doing this role within BA for more than 11 years. Those with less experience in BA had carried out this role outside of BA.

3. Questions 9.05 to 9.28 determined the participant's general experience with technology.

    a. 100% of the participants had a mobile phone, 70% used it for text messages, but none used the Internet facility.

    b. 46% had an MP3 player, but most never downloaded music via the Internet.

    c. 92% used a pc outside of BA and all of them used it for the Internet.

    d. 100% of the participants used the BA corporate intranet, with 92% using it at least once a day.

4. All participants have an equal length of experience with RMS.

5. It can be concluded that :

    a. All participants have the same amount of experience with the RMS system.

    b. No evidence could be found to show any significant difference with the use of computers in general.

    c. However, there was a small but measurable difference in the level of experience with BA.

Summary of all responses

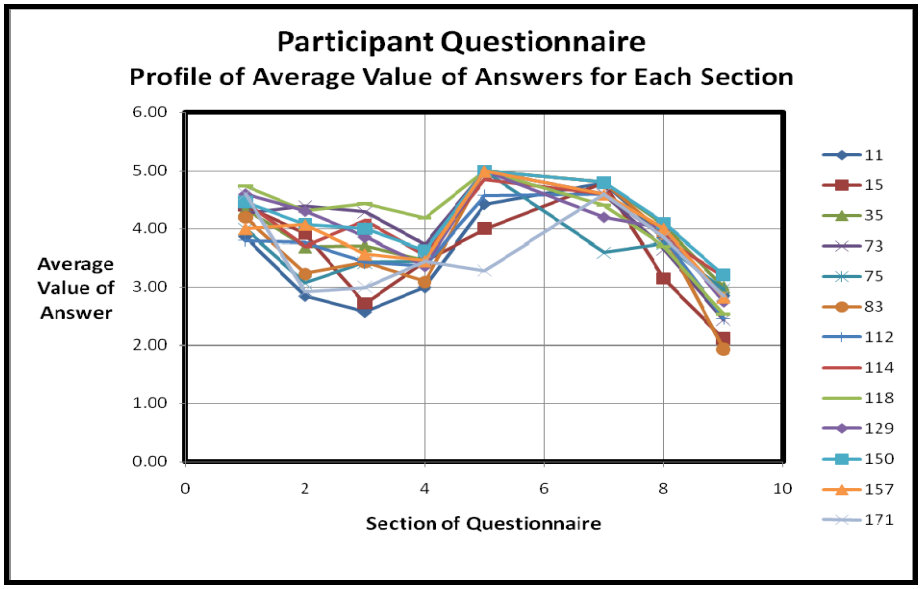
In Appendices C-6, all the responses for each individual were averaged based on the assigned values. This data is provided in table 4.6.

Table 4.6: Responses: Summary of averages for each section (C6-2)

	Participant												
Section	11	15	35	73	75	83	112	114	118	129	150	157	171
1	3.9	4.4	4.3	4.3	4.0	4.2	3.8	4.5	4.7	4.6	4.5	4.0	4.6
2	2.8	3.9	3.7	4.4	3.1	3.2	3.8	3.7	4.3	4.3	4.1	4.1	2.9
3	2.6	2.7	3.7	4.3	3.4	3.4	3.4	4.1	4.4	3.9	4.0	3.6	3.0
4	3.0	3.5	3.5	3.7	3.5	3.1	3.4	3.5	4.2	3.4	3.6	3.5	3.5
5	4.4	4.0	5.0	5.0	5.0	5.0	4.6	4.9	5.0	5.0	5.0	5.0	3.3
7	4.8	4.8	4.8	4.6	3.6	4.8	4.6	4.6	4.4	4.2	4.8	4.6	4.6
8	3.9	3.2	4.1	3.7	3.8	3.9	3.9	3.9	3.7	4.0	4.1	4.0	3.9
9	2.9	2.1	3.0	2.4	3.0	1.9	2.5	3.2	2.5	2.8	3.2	2.8	2.9
Avg	**3.1**	**3.2**	**3.6**	**3.6**	**3.3**	**3.3**	**3.3**	**3.6**	**3.7**	**3.6**	**3.7**	**3.5**	**3.2**
												Average	3.4
												Range	0.6
												Range(%)	16%

This data was also shown graphically in figure 4.5.

Figure 4.5: Profile of Average Value of Answers for Each Section (Fig C6-2)



This table and figure clearly shows that there is very little difference in the answers of the participants

4.6.3. Conclusions from questionnaire

It can be concluded from the questionnaire results that:

1. The user acceptance of this technology is very high, this is based upon the answers to Section 1, perceived ease of use and Section 2 perceived usefulness.

2. Many of the answers were the same for all the participants.

3. The sample of the participants was very homogenous. However, in the cultural background, two ethnic groups were identified; Asian and Caucasian. There was a minor variation in the level of experience in some of the participants.

4. The data was analysed to determine whether there was any correlation between these individual factors. This will be discussed in Chapter 5.

4.7. Participants' comments

Comments were made by 12 of the 13 participants. These detailed comments are given in Appendix C-4, Table C4-3. These comments have been summarised below.

Positive comments of more than one participant included:

1. They enjoyed using the system and that it was an effective process.
2. They preferred the RMS 'quiet' form of task allocation to the previous radio communications.
3. Some liked the fact that RMS has eliminated their paperwork.
4. The RDT device was very robust.

Negative comments of more than one participant included:

1. Many disliked the 'call me' option. Where drivers request a call from the allocators, they felt that this rarely illicited a response. Participants stated that this option was 'ineffective', 'unacceptable' and 'useless'.
2. The term 'immediately' used on a task is impossible to achieve. The term is often used for non-urgent tasks.
3. Many participants were concerned that RMS is regularly by-passed by the allocators. They felt this impacted negatively on the 'fairness' of task allocation.
4. Many participants were concerned that information was not always correct and that this accuracy of task information provided by allocators should be addressed.
5. RMS does not provide a daily log of work conducted.

6. Some participants write down tasks to be protected should the technical system fail.

7. RTD was too bulky and cumbersome.

8. Two participants felt that the font is too small (especially where 'more info' has been given) and a number of drivers had to change their glasses to read the RTD.

9. Many are concerned that RMS does not give them sufficient information. They often rely on the passenger service agent or aircraft dispatchers on aircraft delays and passenger numbers to keep themselves updated on a task.

10. Participants were concerned about the total costs of RMS, including hardware and the personnel costs.

11. Many drivers often forget to submit the basic RMS commands of a task, and conduct the activity, before realising that the RMS status was not accurate, and there appears to be no built in check on this.

4.8. Managers' Questionnaire

As discussed in Chapter 3, it was planned to send a questionnaire (Appendix B-6) to a selection of managers who were involved in RMS. The objective of this part of the work was to compare the perception of RMS from the view point of end-users and managers. However, due to the continuous restructuring of BA, many of these managers have either moved to other positions or have left the company. Responses were obtained from three managers. These are not included in the study for two reasons. First, the number of responses was not statistically significant. Secondly, it would be relatively easy to identify these managers.. As this was a minor portion of the work, its exclusion does not affect the overall conclusions.

4.9. Chapter Conclusions

It can be concluded that:

1. The level of the user acceptance of the technology was very high for all the participants. No significant difference in the user acceptance by any of the participants could be determined from the observations, questionnaire or general discussions. No comments were made by any of the participants showing that they deliberately tried to by-pass or undermine the technology.

2. Many of the negative comments showed that there was an underlying desire by the participants to more fully utilise the technology.

3. Comments made by some of the participants were sometimes in conflict to their response to the questionnaire. Some participants appeared to provide answers in the questionnaire based upon what they thought would be an acceptable response rather than what the participant really believed.

4. Finally, it should be stated that virtually all of the participants were most cooperative, friendly and open. As stated earlier, at the start of this study, the participants' attitudes had been negative. However, the sensitive and careful observation techniques appeared to quickly remediate this situation. At the end of the three-day shift period an excellent rapport had been established between the researcher and the drivers and the managers.

Chapter 5

Discussion: Evaluation of Results versus Theory

5.1. Introduction

In Chapter 1 the research question was defined as follows:

'Can the degree of RMS acceptance by the GTS end-users be determined by factors identified in user acceptance theories?'

The objectives were defined as:

1. To establish the degree of user acceptance of RMS by the GTS end- users.

2. To establish if the extent of user acceptance is affected by the individual moderating factors identified in the theories. These would include, gender, age, experience, cultural background, and intellectual capability (Sun and Zhang, 2006).

3. To establish whether the extent of user acceptance is determined by variables referred to as external variables in the literature (Davis, 1980; Sun and Zhang, 2006). These would include perceived ease of use and perceived usefulness, attitudes, subjective norms and behavioural intention.

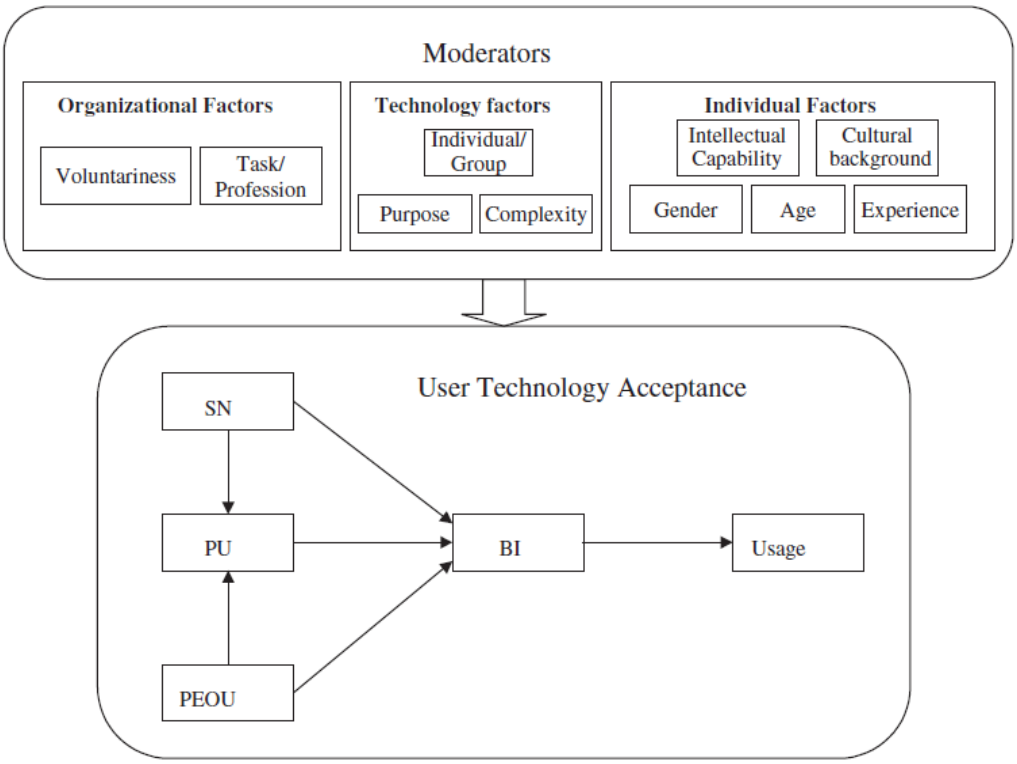
5.2. Degree of User Acceptance

The degree of user acceptance of the RMS technology was determined by three different data sets, observation by the researcher, participants' questionnaire and comments. The detailed findings for these three sets of data are given in Chapter 4. In summary, these showed that the user acceptance of the technology is very high. It should be noted however that many of the participants felt that certain elements of the RMS technology could be improved.

5.3. User acceptance and individual moderating factors

The degree of user acceptance was evaluated using the general principles of user acceptance theories and specifically the integrative model by Sun and Zhang (2006). This model identified all the factors that could determine user acceptance. In Chapter 2 the relationship between user acceptance external variables and the moderating factors was discussed. This model is illustrated in figure 5.1:

Figure 5.1: An integrated model, including moderators (Sun and Zhang 2006, p.65).



As discussed earlier (Chapter 2 and 3), the organisational and technology moderating factors for this project are fixed and not variable. As such, these are not tested. The factors that are to be tested are the individual user factors of gender, age, experience, intellectual capability, and cultural background. Sun and Zhang (2006) reviewed 69 research studies. In the following discussion, a comparison is made of the conclusions of Sun and Zhang (2006) and this research study.

5.3.1. Gender

Sun and Zhang (2006) showed there was a distinct difference between male and female user acceptance. For example, the effects of perceived usefulness on behavioural intent are stronger for males, whereas the effect of perceived ease of use on behavioural intent is stronger for females.

In this research study (Chapter 4), only 3 out of the 173 population were female (1.7%), and in the sample there were no female participants. Hence, in this research study the possible correlation between gender and user acceptance could not be tested.

5.3.2. Age

Sun and Zhang (2006) showed there was a distinct difference between younger and older users regarding user acceptance. For example, perceived usefulness had a stronger influence on behavioural intent for younger users, whereas perceived ease of use had a stronger influence on behavioural intent for older users.

In this research study (Chapter 4), 95% of the population was above 42 years of age. In the sample only 1 participant was under the age of 42. Hence, in this research study the possible correlation between age and user acceptance could not be tested.

5.3.3. Cultural Background

Sun and Zhang (2006) showed that was a distinct difference by individuals with different cultural backgrounds, regarding user acceptance. For example, they showed that perceived usefulness has more influence on behavioural intention for users in a highly individual culture, whereas subjective norm has more influence on behavioural intention for users in a more organised culture.

In this research study (Chapter 4), the population and the participants could be classified into 2 distinct ethnic groups that were approximately equal: Asian (49%)

and Caucasian (51%). These groups could be related to the definition to the different cultures by Hofstead (1993). The Asian culture could be considered more organised and structured, whereas the Caucasian culture (as in the UK) could be considered to be more individual and less structured. On that basis then it should be possible to test some of Sun and Zhang (2006) proposed correlations.

It should be noted that Sun and Zhang (2006) carried out their research in North America, whereas this project was carried out in the UK. There may be distinct differences between these two environments that may make Sun and Zhang (2006) proposed correlations not valid in the UK.

The procedure used for testing the proposed correlation for cultural background and user acceptance was discussed earlier (Chapter 3 and 4). The data has been analysed in two ways:

a) Analysis of all responses to each question.

b) Analysis of questions where there are significant different responses.

a) Analysis of all responses to each question

In Appendix C-6, all the participants' responses to sections of the questionnaire were averaged based upon the assigned values. Section 6 was not included as this related to personal information. The averages of 108 questions are given in table 5.1.

Table 5.1: Cultural Background: Comparison of Asian and Caucasian (Data extracted from Appendix C6: Table C6-3)

	Participants																
	Asian									Caucasian						Difference	
Section	15	35	73	112	114	118	129	157	Avg	11	75	83	150	171	Avg		%
1	4.4	4.3	4.3	3.8	4.5	4.7	4.6	4.0	4.5	3.9	4.0	4.2	4.5	4.6	4.9	-0.4	-9%
2	3.9	3.7	4.4	3.8	3.7	4.3	4.3	4.1	4.3	2.8	3.1	3.2	4.1	2.9	4.1	0.1	3%
3	2.7	3.7	4.3	3.4	4.1	4.4	3.9	3.6	4.1	2.6	3.4	3.4	4.0	3.0	4.1	0.1	2%
4	3.5	3.5	3.7	3.4	3.5	4.2	3.4	3.5	4.1	3.0	3.5	3.1	3.6	3.5	4.0	0.1	3%
5	4.0	5.0	5.0	4.6	4.9	5.0	5.0	5.0	5.4	4.4	5.0	5.0	5.0	3.3	5.4	0.0	1%
7	4.8	4.8	4.6	4.6	4.6	4.4	4.2	4.6	5.5	4.8	3.6	4.8	4.8	4.6	5.2	0.3	5%
8	3.2	4.1	3.7	3.9	3.9	3.7	4.0	4.0	4.8	3.9	3.8	3.9	4.1	3.9	4.5	0.3	6%
9	2.1	3.0	2.4	2.5	3.2	2.5	2.8	2.8	3.8	2.9	3.0	1.9	3.2	2.9	3.2	0.6	15%
Avg	3.6	3.6	3.6	3.3	3.6	3.7	3.6	3.5		3.1	3.3	3.3	3.7	3.2			
							Average	**3.5**						**Average**	**3.3**	**0.2**	7%

1. It can be seen that the average for both groups is very similar (Asians: 3.5 and Caucasian 3.3). This difference is not significant.

2. It can be concluded that there is no significant difference between the Asian and Caucasian groups.

b) Analysis of questions where there are significant different responses

The answers in the questionnaire were reviewed and questions where there was a range of answers were identified. In these questions the 'Totally Agree' and 'Agree' were added and the 'Disagree' and the ''Strongly Disagree' were added. Then the percentage of Asian and Caucasians were calculated in this class to show if there were any distinct differences.

All the questions where there were differences in responses were identified and calculations as described earlier carried out. Table 5.2 summarises the data given in Appendix C-5.

Table 5.2: Test of the possible effect of Cultural Background (Asian and Caucasian) on User Acceptance

Section	External Variables	Total Number of Questions	Questions with range of answers	Question	Asian		Caucasian	
					Totally Agree Agree	Disagreed Strongly Disagree	Totally Agree Agree	Disagreed Strongly Disagree
1	Perceived Ease of Use (PEOU)	15	4	1.05	25%	50%	0%	20%
				1.11	88%	0%	75%	0%
				1.12	88%	0%	80%	20%
				1.13	75%	13%	100%	0%
				Average	69%	16%	64%	10%
2	Perceived Usefulness (PU)	13	8	2.03	38%	63%	0%	80%
				2.04	50%	38%	20%	60%
				2.05	38%	38%	60%	0%
				2.07	100%	0%	40%	40%
				2.08	88%	0%	60%	0%
				2.09	100%	0%	80%	20%
				2.10	63%	13%	40%	20%
				2.11	100%	0%	20%	40%
				Average	72%	19%	40%	33%
3	Subjective Norm (SN)	7	3	3.01	63%	38%	20%	40%
				3.02	75%	0%	60%	0%
				3.06	50%	0%	60%	20%
				Average	63%	13%	47%	20%
4	Attitude (A)	11	2	4.04	25%	38%	20%	0%
				4.07	50%	13%	20%	40%
				Average	38%	26%	20%	20%
5	Behavioural Intention (BI)	7	2	5.06	88%	13%	60%	20%
				5.07	88%	13%	80%	0%
				Average	88%	13%	70%	10%
	Total	53	19	Grand Average of All 5 Variables	68%	17%	47%	22%
				Weighted Average	66%	17%	48%	19%

From the above table, the following comments can be made:

a) All 5 external variables

   a. There was total of 53 questions which 19 had a range of answers. The average responses of these 19 questions were calculated.

   b. For Asians 68% 'Totally Agreed' or 'Agreed', whereas 47% of Caucasians 'Totally Agreed' or 'Agreed'.

   c. Hence, the data indicates that Asians may be more positive to these external variables, and there may be a difference between the 2 ethnic groups. However, the data is only indicative due to the small sample size

b) Section 1: Perceived ease of use.

   a. There were 15 questions of which 4 had a range of answers. It can be seen that the average response of these 4 questions were calculated.

   b. For these 4 questions, on average 69% of Asians 'Totally Agreed' or 'Agreed', whereas 64% of Caucasians 'Totally Agreed' or 'Agreed'.

   c. Hence, the data indicates that there is no significant difference on the perceived ease of use between the two ethnic groups.

c) Section 2: Perceived usefulness.

   a. There were 13 questions of which 8 had a range of answers.

   b. For these 8 questions on average, 72% of Asians 'Totally Agreed' or 'Agreed', whereas only 40% of Caucasians 'Totally Agreed' or 'Agreed'.

   c. Hence, the data indicates that there may be a difference in the perceived usefulness between the two groups. Asians may be more positive about the perceived usefulness of the RMS technology than the Caucasians.

   d. However it should be stressed that the difference between the two groups is small and the sample size is also small. A different response by only one participant could change the conclusion very significantly. Hence, the evidence is too weak to draw any conclusions.

d) Section 3: Subjective Norm.

   a. There were 7 questions of which 3 had a range of answers. The average responses of these 3 questions were calculated.

   b. For these 3 questions, on average, 63% of Asians 'Totally Agreed' or 'Agreed', whereas 47% of Caucasians 'Totally Agreed' or 'Agreed'.

c. Hence, the data indicates that there may be a small difference between the two groups, but because of the small sample and limited number of questions, this difference is not significant.

e) Section 4: Attitude

a. There were 11 questions of which 2 had a range of answers.

b. For these 2 questions, on average 38% of Asians 'Totally Agreed' or 'Agreed', whereas 20% of Caucasians 'Totally Agreed' or 'Agreed'.

c. Hence, the data indicates that there is no significant difference.

f) Section 5: Behavioural Intention

a. There were 7 questions of which 2 had a range of answers.

b. For these 2 questions, on average 88% of Asians 'Totally Agreed' or 'Agreed', whereas 70% of Caucasians 'Totally Agreed' or 'Agreed'.

c. Hence, the data indicates that there is no significant difference.

g) General Conclusions

a. There is an indication that that the Asian culture group may be more have a higher user acceptance than the Caucasian group but the difference is small and may not be significant.

5.3.4. Experience

Sun and Zhang (2006) showed there was a distinct difference between more experienced and less experienced individuals regarding user acceptance. For example, perceived ease of use had less influence on behavioural intention for experienced users than for less experienced users. Sun and Zhang (2006) defined experience as the combination of the number of years experience a user has with computers in general plus the number of years experience with the specific technology (RMS).

In this research study (Chapter 4), all the users had exactly the same number of years experience with this technology and that no evidence could be found to show any significant difference in the use of computers in general. Hence, according to the Sun and Zhang (2006) definition, all the users have the same level of experience. As such, it would indicate that in this research study the level of experience could not be tested with the user acceptance.

However, analysis of the data indicated there was a small but real difference in the work experience the participants had with BA. 46% of the participants had worked for BA for 11 to 20 years and the 54% of the participants had worked for BA more than 20 years. Therefore, it was decided to evaluate this level of experience in a similar manner that carried out for the cultural background. As discussed earlier, the data has been analysed in two ways:

a) Analysis of all responses to each question.

b) Analysis of questions where there are significant different responses.

a) Analysis of all responses to each question

In Appendix C-6, all the participants' responses were averaged based upon the assigned values. This data is given in table 5.3 extracted from Appendix C-6.

Table 5.3: Experience: Comparison of different levels of BA experience (Data extracted from Appendix C-6: Table C6-3)

	Participants																
	BA Experience; 11-20 yrs								BA Experience; <20 yrs							Difference	
Section	11	35	73	112	114	150	171	Avg	15	75	83	118	129	157	Avg		%
1	3.9	4.3	4.3	3.8	4.5	4.5	4.6	4.3	4.4	4.0	4.2	4.7	4.6	4.0	4.3	-0.1	-2%
2	2.8	3.7	4.4	3.8	3.7	4.1	2.9	3.6	3.9	3.1	3.2	4.3	4.3	4.1	3.8	-0.2	-5%
3	2.6	3.7	4.3	3.4	4.1	4.0	3.0	3.6	2.7	3.4	3.4	4.4	3.9	3.6	3.6	0.0	1%
4	3.0	3.5	3.7	3.4	3.5	3.6	3.5	3.5	3.5	3.5	3.1	4.2	3.4	3.5	3.5	0.0	-1%
5	4.4	5.0	5.0	4.6	4.9	5.0	3.3	4.6	4.0	5.0	5.0	5.0	5.0	5.0	4.8	-0.2	-5%
7	4.8	4.8	4.6	4.6	4.6	4.8	4.6	4.7	4.8	3.6	4.8	4.4	4.2	4.6	4.4	0.3	6%
8	3.9	4.1	3.7	3.9	3.9	4.1	3.9	3.9	3.2	3.8	3.9	3.7	4.0	4.0	3.8	0.1	3%
9	2.9	3.0	2.4	2.5	3.2	3.2	2.9	2.9	2.1	3.0	1.9	2.5	2.8	2.8	2.5	0.3	12%
Avg	3.1	3.6	3.6	3.3	3.6	3.7	3.2		3.2	3.3	3.3	3.7	3.6	3.5			
						Average	**3.4**							**Average**	**3.4**	**0.0**	1%

1. It can be seen that the average response values are the same for the two different levels of experience (3.4)

2. It can be concluded there is no significant different between the two levels of experience

b) Analysis of questions where there are significant different responses

The analysis is identical to what was discussed earlier. Table 5.4 summarises the data given in Appendix C-5.

Table 5.4: Test of the possible effect of the level of experience at BA on User Acceptance.

Section	External Variables	Total Number of Questions	Questions with range of answers	Question	Less (11-20 Years)		Higher (20+ years)	
					Totally Agree Agree	Disagreed Strongly Disagree	Totally Agree Agree	Disagreed Strongly Disagree
1	Perceived Ease of Use (PEOU)	15	4	1.05	17%	33%	14%	43%
				1.11	83%	0%	71%	0%
				1.12	83%	17%	86%	0%
				1.13	83%	17%	71%	14%
				Average	67%	17%	61%	14%
2	Perceived Usefulness (PU)	13	8	2.03	33%	50%	14%	86%
				2.04	33%	50%	43%	29%
				2.05	50%	33%	29%	14%
				2.07	83%	0%	71%	29%
				2.08	83%	0%	71%	0%
				2.09	100%	0%	86%	14%
				2.10	67%	0%	43%	29%
				2.11	67%	17%	71%	14%
				Average	65%	19%	54%	27%
3	Subjective Norm (SN)	7	3	3.01	67%	0%	29%	71%
				3.02	100%	0%	57%	14%
				3.06	67%	0%	43%	14%
				Average	78%	0%	43%	33%
4	Attitude (A)	11	2	4.04	17%	17%	29%	29%
				4.07	67%	33%	14%	14%
				Average	42%	25%	22%	22%
5	Behavioural Intention (BI)	7	2	5.06	100%	0%	57%	29%
				5.07	100%	0%	71%	14%
				Average	100%	0%	43%	14%
	Total	53	19	Grand Average of All 5 Variables	68%	14%	51%	24%
				Weighted Average	70%	12%	44%	22%

From the above table, the following comments can be made:

1. All 5 external variables

    a. There were a total of 53 questions of which 19 had a range of answers.

b. For the less experienced group 68% 'Totally Agreed' or 'Agreed', whereas 51% of the more experienced group 'Totally Agreed' or 'Agreed'. This difference in data is not considered to be significant.

c. Hence there is no difference between the more experience and less experience users.

2. Section 1: Perceived ease of use.

    a. No significant difference.

3. Section 2: Perceived usefulness.

    a. No significant difference.

4. Section 3: Subjective Norm.

    a. Possible difference. The average responses of these 3 questions showed 78% of the less experienced group 'Totally Agreed' or 'Agreed', whereas 43% of the more experienced group 'Totally Agreed' or 'Agreed'.

5. Section 4: Attitude

    a. Possible difference. The average responses of these 2 questions showed 42% of the less experienced group 'Totally Agreed' or 'Agreed', whereas 22% of the more experienced group 'Totally Agreed' or 'Agreed'.

6. Section 5: Behavioural Intention

    a. Possible difference. The average responses of these 2 questions showed 100% of the less experienced group 'Totally Agreed' or 'Agreed', whereas 43% of the more experienced group 'Totally Agreed' or 'Agreed'

5.3.5. Intellectual Capability

As discussed earlier, intellectual capability is difficult to define, and perhaps even harder to measure. It may be related to education level and I.Q. of the individual, but it is really trying to focus on such factors such as ability to learn and ability to retain knowledge. Sometimes this is referred to as absorptive capacity. Sun and Zhang (2006) showed there was a distinct difference between those with 'stronger' or 'weaker' intellectual capacities. For example, perceived usefulness has more influence on behavioural intention for those who have stronger intellectual capacities.

In this research study (Chapter 4), it was shown that no evidence of any significant difference in the intellectual capabilities of the participants. Hence, in this project the possible correlation between intellectual capability and user acceptance could not be tested.

5.4. Chapter Conclusion

It can be concluded that it was not possible to determine any correlations between the user acceptance for RMS technology at GTS and the individual factors of gender, age, experience, intellectual capability, and cultural background that been identified in the theory of Sun and Zhang (2006). Data indicated that the Asian group may have a higher level of acceptance than the Caucasian group. However, the difference in the data was relatively small, and the sample size was small. Hence, the researcher concludes that the difference in the data is not significant.

Chapter 6

Conclusions and Recommendations

6.1 Introduction

In this chapter the conclusions are summarised and recommendations are made. This work is critically evaluated based upon the learning experiences that the research study gave the researcher.

6.2 Critical evaluation of the choice of the project topic

The objective of this work was to evaluate the user acceptance of the RMS system, based upon current theories. The RMS system was chosen because this is a major BA business driven IT project. RMS is a task allocation system and replaces traditional pen and paper, and radio systems for allocating work tasks for 4,000 airport operational staff. RMS has been implemented into all the main operational areas, including baggage logistics, loading, Passenger Service Units (PSU) and Ground Transport Services (GTS). It is a major investment of BA. On that basis alone it was the right choice of topic.

Due to the restrictions in time of this project, it was decided to limit the work to a small self-contained department where only one new technology, RMS, had been implemented. This is a wise choice because the introduction of other technologies may have masked the user acceptance of RMS. Hence, the GTS department was chosen. Again the researcher believes that this was a wise choice.

6.3 Critical evaluation of the choice of end users

The choice of the drivers in the GTS department was based upon the premise that they are easily identified as end-users, have been doing that job function for many years, and that the technology was recently introduced. On the surface, this appears to be a correct choice.

However, the choice of drivers had unforeseen limitations which greatly hindered the evaluation of the user acceptance. Essentially, to fully test the theory, the end-users should have been a heterogeneous population with a wide distribution of classes. For example, the theory could have been better tested if there had been equal gender groups, significant distribution of groups on the basis of age, intellectual capabilities, and experience with computers and RMS technology. During the project, detailed evaluation showed that the total population was in fact very homogenous. Essentially, it was an all male population, with an older age group and the same level of experience in computers and the technology. In addition, it was not possible to measure any differences in the intellectual capacities of the participants. All of the participants had virtually all the same educational level.

The only significant difference in the population was the cultural background. There were two main ethnic groups Asian and Caucasian. The theory suggests that there are significant differences in cultural groups in user acceptance. Analysis of the data collected indicated that there may be a marginal difference in user acceptance between the two groups. Data indicated that the Asian group may have a higher level of acceptance than the Caucasian group. However, the difference in the data was relatively small, and the sample size was small. Hence, the researcher concludes that the difference in the data is not significant

In addition, the differences in the two ethnic groups in this project may not be large enough for the correlation to be correctly tested. Although there are differences in the ethnic background there is also great similarity between the two groups. Both have lived in the UK for many years, have similar ages, and similar levels of education. In addition, there is friendliness between both groups that may minimise the cultural differences. If the user acceptance of the RMS technology had been evaluated with Caucasian drivers based in Manchester and compared with Asian drivers based in Delhi then the cultural differences may have been easier to evaluate.

A final point can be made on the selection of the driver as the subject of the study. Although the technology is used by the drivers virtually every minute of their shifts, the actual level of use of the RMS technology is extremely simple. The communication to the driver has only five basic commands and it does not challenge the driver in any significant way. If the technology had been more demanding, then differences in the user acceptance in the may have been identified. The researcher does recognise that the function of RMS is to simplify the end-users decision-making and not to give the end-user challenges.

In retrospect a more meaningful choice could have been the allocators. The allocators use RMS to allocate tasks to the driver. Hence the technical demands on the allocators are higher. The allocators are a smaller group than the drivers and would have been easier to observe. Hence a larger sample could have been chosen. However an analysis would have to be carried to determine if the population was heterogeneous.

6.4 Critical evaluation of the methodology

The methodology essentially had 3 parts, participant observations, participant questionnaire and general comments of the participants. The researcher strongly believes that this three-step methodology was the right approach.

The observation and shadowing procedure was an excellent method of educating the researcher on the participant's use of RMS. It also gave the researcher the opportunity to note differences in the way the RMS system was used by the drivers.

The questionnaire had 113 questions and as such, was quite an imposition on the drivers. The researcher deliberately completed the questionnaire for the driver as the driver responded to the verbal questions. The researcher felt this was exactly the right way to carry out the questionnaire. The researcher also felt that the scheduling of the questionnaire after the observation period was correct. During the observation period the researcher built up a rapport with the drivers, most of whom were friendly and open during the questionnaire and comment periods.

In the analysis phase of the work the researcher realised that some more questions could have been added and some other questions could have been eliminated.

It should be noticed that the questionnaire was structured so that after each section the questionnaire asked for further comments from the participant. Very rarely did the drivers make any comments after each section. It was only after the researcher had finished the questionnaire and had put the document away that the drivers gave detailed comments. The period when the participant drove the researcher back to base was only time that there was an open and free flowing discussion regarding RMS. In fact, on occasions comments made by some of the participants were in conflict to their response to the questionnaire. If the research study had been limited just to a questionnaire, the researcher would have had more limited view of the use of RMS.

The researcher had planned to collect data on a larger sample size. However, in the three day time period available this was not possible. To significantly increase the sample size, another 5 to even 10 days may have been required. Based upon the analysis in Chapter 5, the researcher does not believe that a larger sample size would have changed the nature of any of the findings and conclusions.

6.5 Conclusions regarding the research question

The research question was:

'Can the degree of RMS acceptance by the GTS end-users be determined by factors identified in user acceptance theories?'

Essentially, it was not possible to answer this question because of two reasons. First there was little difference in level of user acceptance; it was very high for all users. Second there was also very little difference in the sample and population. It was not possible to evaluate any of these moderating factors identified in the theory. As stated above the population was very homogeneous and the technology was rather simple.

In the analysis phase of this work, the publications on the user theories were reviewed in great detail. As discussed earlier Sun and Zhang (2006) theory of user acceptance is the most comprehensive. As such this was the major theory used for this research project. However, the researcher was disappointed to find gaps in their published information. For example, there was little information given on the methodology of measuring the individual factors of experience, intellectual capability, cultural background of the participants. In addition, there was very little explanation on how the studies they had tested, had actually measured user acceptance. Analysis of other publications by the same authors did not provide any further information.

6.6 Recommendations

The researcher recommends the following:

The user acceptance of new technology should always be evaluated both during and after the implementation stage. The lessons learned can then be applied to the implementation of the next technology.

1. **Evaluation of the RMS technology by the GTS drivers**. The researcher does not believe that different conclusions would be obtained if further work would be carried out with the coach drivers. Hence, the researcher does not recommend that further work is necessary with the GTS drivers.

2. **User acceptance of RMS by other users**. The researcher does recommend that the user acceptance of the RMS system with other end users would be worthwhile. However, a detailed analysis of the population and the complexity of the technology should be carried out prior to the study. This could ensure that the proposed correlations between moderating factors and the user acceptance could be fully tested.

3. **User acceptance of other technologies**. The researcher recommends that the user acceptance of other technologies would also be very worthwhile based upon the conditions stated earlier.

4. **RMS benefits**. Finally, the researcher recognises the great benefits that the RMS system gives to BA. However, in the researcher's limited experience, based upon observations and responses from drivers, indicates that the RMS system can offer a lot more benefits to the GTS end-users and to BA, than is currently the case.

6.7 Positive Outcomes

Despite the negative comments above, the researcher is a strong believer of the evaluation of user acceptance. The premise that the better the user acceptance of a technology the more successful will be the implementation of the technology has been well documented in the literature.

From a technical point of view the researcher obtained a better appreciation of the application of IT technology as a business change tool, and how BA is improving productivity by the use of these tools.

However, the major positive outcome was a personal one. This study enabled the researcher to establish a wide network of contacts throughout the BA IT community. Every BA person was cooperative, helpful and very encouraging. The researcher believes that the cooperation and the communication that was established will last well beyond this research project.

Chapter 7

Personal Experience

7.1 Introduction

This M.Sc course and in particular the research project was an excellent learning experience from an academic, industrial, and perhaps more importantly a personal point of view.

7.2 Academic

To date, I have 14 years service delivery experience in the IM department at BA and have achieved a number of professional qualifications, including Microsoft Certified Systems Engineer (M.C.S.E). Despite this, I had realised that my IT knowledge was like pieces of a jigsaw. I had intimate knowledge of a number of pieces, but many were blank. Because of this I only had a vague understanding of the big picture. This M.Sc. course, which had nine separate modules, has filled in many of the gaps in my knowledge. Eight of the modules covered areas where I had no personal experience. This has given me a far better understanding of Information Systems. In particular, it has given me a greater appreciation of 'why' technology is implemented in organisations, and how it can be used to reduce costs and improve efficiency.

The information I have learnt over the time of this study has certainly changed my perception on aspects of my work. It has given me a maturity and level of knowledge and expertise that I didn't realise I was missing. This has enabled me to critically analyse, both from a technical and strategic point of view, IT decisions. Essentially, if the king has no clothes, now I know it. Saying it however, might need a little more courage.

7.3 Industrial

This research study was an excellent opportunity for me to get first hand knowledge of the BA investment in IT at T5. Perhaps the most important aspect of this was that I interfaced with many BA personnel that otherwise I would not have had the opportunity. Personally, I was surprised at the high level of support, cooperation and encouragement that was provided by BA management with regards to my studies. I enjoyed spending time with my GTS colleagues at T5. They were fun to be with and very welcoming. I feel as though I have made a network of friends and contacts that will last well beyond this research project.

I am very fortunate to work in two of the most exciting industries, IT and the airline industry. The academic experience that I have received in this course has enabled me better able to adapt with the changes that both industries are going through. My new knowledge has made me realise that IS not just a 'service' to the airline but it is critical to the daily operation of BA, and its future competitive success.

7.4 Personal

Sincerely, it has been a long challenging journey for me in completing this course. Since I embarked in 2003, many changes have occurred. I had the very best intentions to complete this part-time study within the recommended 3 years. However, although I am now submitting in 2009, I am now very proud of my achievement in submitting my works, as it would have been an easy option to give-up.

In 2005, I took 18 months away from studying to have my daughter Beth and returned back to my studies at the same time I returned back to full time work. Both professionally and personally there has been tremendous change. The constant has been this course which has given me a schedule of deadlines and projects that in many ways has been very challenging but also has given me certain stability.

Finally, I am most fortunate to have an encouraging support network of family and friends, without which, this work may not have been completed. Since having my daughter, this study has given me the opportunity to develop my self-discipline and the value of trust and teamwork within my family.

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Appendix A-1:
Project Planning: BA IM Senior Management: Initial Discussions

First discussions: Nov-06

Table A1-1: IM senior management contacts:

Contact Ref.	Dept.	Job title	Reason for contact	Phase of research
1	IM	IM Change Manager (reporting directly to Paul Coby, CIO)	High level authorisation, request for assistance from Organisational Research and process design department.	Project planning
2	IM	IBC T5 Change Consultant T5	Detailed discussions into new technology being implemented into T5, many emails and one face to face meeting, where RMS was initially discussed.	Project planning
3	IM	Senior Resource Manager	Resource line manager, request mentoring through studies	Project planning
4	IM	Manager, Communication Networks	Initially discuss IP Telephony technologies, and request mentoring	Project planning

E-mail Strings

16/03/07 7.23
To XXX BA

Morning XXX
I very much appreciate this - many many thanks
Clare

XXX
15/03/2007 18:08

To Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB@BA
cc:
Subject: Re: Personal request for assistance Notes Link

Clare
sorry for delay coming back to you on this - I've been away
I've asked somone who would be v good if they would be prepared to work with you on this and will advise asap
regards
XX

Clare McCool
07/03/2007 08:52

To XXXX /HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc:
Subject:
Re: Personal request for assistance Notes Link

Many thanks XXXX
Specifically, I am presently looking into the technology which we plan to implement into T5 and its expected effect on our business performance and organisational culture.
I feel the timing for this kind of study is perfect. Its an exciting topic, and as I investigate further, I plan to find a much smaller stream to base my hypotheses on. As this is one of my first large research projects, I would be most interested in any previous research which has already been completed in this area, or research that require any 'further work'. However, I totally understand if this kind of information would not be available to me. Just to advise,
information collected will remain confidential to BA and I shall have total editorial control on what will be submitted on the dissertation.
With thanks again
Clare

XXXX
07/03/2007 08:14

To:
Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc:
Subject:
Re: Personal request for assistanceNotes Link

Hi Clare
delighted to help if I can
so I can point you in the right location did you have some potential subjects/project areas in mind?

XXXXX

Clare McCool
07/03/20 8.01
To: XXX /HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc: XXXXHEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
Subject: Personal request for assistance
Good morning John,
Steve Castle, who is my operations manager, recommended that I contact you and I hope you will forgive the intrusion.
I am an SDA based at Didsbury, Manchester and I am presently studying for a part-time 3 year M.Sc in Information Systems. I am now at the stage where I must choose what subject I should do for my 9-month research project. This project has to have a practical component and will represent one third of the total marks for the M.Sc.

The choice of the project is very open ended and I would like to do something that would be of benefit to both BA and myself. It was on this basis that Steve recommended that I contact you to see if you could recommend somebody in your Operational Research and Process Design department that could be available to discuss the potential project in more detail.
For your information I have attached a summary of my career to date

With thanks Clare

XXXX
BA
Clare - I'd be very happy to help in any way I can.

How would it be if we start with a phone call to discuss your approach and the sort of information / access to people that might be of use to you and take it from there?
My Notes diary is up to date so feel free to book 30 minutes sometime next week to suit you.
My number XXXXXX
Best Regards.
XXXXX
IBC T5 Consultant T5

----- Forwarded byXXXX HEATHROW/BRITISH AIRWAYS/GB on 16/03/2007 13:02 -----

XXXXXX
5/03/2007 18:07

To: XXXX /HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc:
Subject: Re: Personal request for assistance

Warren
would you be prepared to help Clare on this?
thanks
XXXX

XXXX
Thank you for this
I am attending a briefing at Waterside next Thursday, 22-Mar, and plan to be on site about 08.40.
From your calendar, I notice you have a 10:00 meeting, would it be convenient to arrange 20/30min breakfast discussion with you prior to your appointment?
I understand if this is not feasible, and will arrange an over the phone discussion next Friday afternoon
Thank you again
Kind regards
Clare

Clare - great idea - I've sent you an invitation - feel free to adjust time and location.
Rgds.
XXXXX
IBC T5 Change Consultant T5

Morning XXX
Sincere thanks for your time yesterday - and many thanks for all the information you provided. I found it truly enlightening and most beneficial to my studies.
As suggested I've requested to be added to the following groups, to allow me access to the data shares
LHRNAS-USERXXXXX (Owner - XXXXX)
LHRNAS-USERXXXXX (Owner - XXXXX)
I've advised:
I hope this is acceptable
I shall contact XXXX shortly, with regards to accessing the T5 notes database, and to view the T5 2003 presentation
Many thanks again
Clare

Clare, Hi - to be honest I think you might struggle to find a business person to engage with on this in any depth .
The decision to go IPT in T5 was I believe (90 % sure) a strategic Im one rather than one based on identifying specific problems or requirements for telephony in T5 .
So the process is more one whereby we've taken the strategic approach with the technology (supported by a legacy transition BA wide business case) and will then work over tome with the busines to leverage the opportunity.
I was involved in a debate a few months ago around how best to enage business reps to collect IPT configuration requirements for T5 but I don't know what level of engagement we got.
XXXXX I think this was one of yours ? if so can you let Clare know whetehr there was good live engagement or not and therefore whether we're putting a tightly spec'd ot just 'vanilla' IPT config inmto T5.
If iy wasn't you let me know and I'll go back to my notes - Tks.
Clare - did you get access to teh LAN drives OK?
XXXX IBC T5 C

Clare - Greetings! Did you talk to me about this some time ago - I recall that you were thinking about doing this and glad that you're moving forward.
I think that the best person for you to talk to about either the IPT infrastructure or the handheld (mobile phone) devices would be Lee Weatherley - he was responsible for much of the business case for both the original IPT deployment around the LHR / LGW Campus and for the extension into T5. He also has a number of very good examples of how the system went in as a pure "telephone replacement" but is now being extended to cover lots of more advanced applications - paging, VHF Radio etc. - which could not have been delivered by the old systems and are delivering benefits beyond the original case.
Although Andy is employed by WVS he is actually working full time on (and funded by) the T5 project team. I have no issue with your continuing to talk to or shadow him, but you should probably get the agreement of Paul New as his primary BA "owner", as there has been some debate over other people using Andy's time whilst funded by the T5 project.
Finally, I'd very much like to see the final result of this work - I'd also request that you are very careful about how this is handled with Cisco, and that we think about how the results could or should be used. That said it sounds like a really good thing to do and I admire you for tackling it.
Brgds
XXX Manager, Communication Networks

Clare, Jan - I spoke to Lee who was / is very keen to support this. He's away at the moment - suggest that the best way forward is to email him to arrange to meet?
Brgds
XXXX

Clare McCool
/MANCHESTER/BRITISH AIRWAYS/GB
27/12/2007 11:02

XXXXX:/HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS

To
cc XXXX /HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
Subject Re: Fw: M.Sc. Research Project - Request for mentorship
Notes Link

Morning Jan,
I will do - many, many thanks
Clare

XXXX /HEATHROW/BRITISH AIRWAYS/GB
27/12/2007 11:01

To XXXX /HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc
Sub; Fw: M.Sc. Research Project - Request for mentorship

XXXX
Hi, I'm hoping this hasn't fallen down somewhere between us and that Clare is in the loop.
XXXX

Clare
As below, XXXs keen to help you.
Apologies if neither XX or I contacted you.
Plse could you follow up directly with XX
Good luck with the research.
tks
XXX
----- Forwarded by XXXX /HEATHROW/BRITISH AIRWAYS/GB on 27/12/2007 10:59 -----

---

XX /
HEATHROW/BRITISH AIRWAYS/GB
20/11/2007 11:40

ToXXXX /HEATHROW/BRITISH AIRWA
AIRWAYS
cc

SubjRe: Fw: M.Sc. Research Project
ectmentorshipNotes Link

XXX
- I'd be more than happy for Lee to act as Clare's mentor on this - it would actually help us very significantly if she completed any of the studies she's proposing. As she mentioned Lee has worked with her before and I think would be more than keen to continue this.

So I'm in favour. Do you want me to confirm this with Lee prior to formal acceptance?

Brgds
XXX

XXXX HEATHROW/BRITISH
AIRWAYS/GB ToXXXXX
18/11/2007 15:56
cc
SubjeFw: M.Sc. Research Project - Request for mentorship
ct

Phil
What do you think about this? Clare is an Im employee based in Manchester and I'd like to support her.
Is this something one of your team could take on the mentor role for?
Plse let me know your thoughts.
rgds

XXX

Information from Clare McCool
.....I really wanted to focus on was 'how IT will be applied to further improve the operation of BA'. Consequently, I started a M.Sc. in Information Systems at the University of Chester. Over the last few years I have completed 8 modules, which has given me a post-graduate diploma in Information Systems.

The master's final year, which has now started, will be a 9-month research project. I am in the process of the detailed planning of the project. The university strongly recommends the student to undertake a " works based" project that will be of benefit to our employees. On this basis, I have had some preliminary discussions earlier in the year with Steve Castle, who has encouraged me to undertake a T5 related project. Steve authorised me to contact John Mornement, who put me in contact with Warren Hubbard IBC T5 Change Consultant T5. Warren arranged for me to have a meeting with Lee Wetherley - Voice and Video Applications Manager, who provided me with very helpful information and documentation on the technical aspects of my chosen subject.

I am most interested in a topic mentioned in the IM technical infrastructure strategy document (2007). Which states that 'the network is the largest single operational cost to IM and BA needs to constantly exploit opportunities to reduce the cost and obtain better value from it.' It also comments that as some Internet services have matured into commodities this has led to the justification to upgrade BA systems and services. I understand that BA will make major investments in IP telephony, and it is this integration with BA's business processes and workflow that I am most interested in researching. ie how BA is using IP telephony as a vehicle to support organisational change and corporate strategy. Can this technology enable BA to improve efficiency and effectiveness whilst reducing costs?: ie.'do more with less'

I would like to determine the benefits that BA will obtain from the application of IP telephony in the following three areas:
1.**Ground Services and Operations for T5** : (eg. the RMS system and PDA devices has replaced the manual work allocation process)
2.**Contact Centres**. (eg, what would the benefits be in replacing the current Call Centre PABX systems?)
3.**Remote Workers**. (eg, call cost reduction)

Ideally, it would be great if I could have BA mentors in each of these areas, so with their guidance, I could undertake a small research project that would determine and quantify the business benefits versus the costs of IP telephony in the short term and long term.

For the T5 project Warren Hubbard and Lee Weatherley have very kindly offered to provide me with further information that I may require - however, I am not sure if either would be prepared to mentor me

---

Morning Phil,
Thank you again for this
I shall contact Lee shortly
Warm regards
Clare

Many thanks XXX - this is very much appreciated,
I'm presently waiting for the university to revert with my critiqued proposal.
Would it be acceptable if I came back to you later next week with my wish list ?
Thank you again
Clare

XXXX
/HEATHROW/BRITISH AIRWAYS/GB
16/01/2008 18:02

ToClare:McCool/MANCHESTER/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc
SubjRe: Request for assistance: M.Sc Information ectResearch Project Notes Link

Clare - if we can make this work I'd be more than happy to support you.
Maybe the best way to test it is for you to have a think about all the things you'd ideally get from me and send me a 'wish list' .
Alternatively , if you've in LHR anytime soon we could talk face to face - my diary is up to date (though frequently changing!).
Rgds.
XXXXX

Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB
16/01/2008 14:33

ToXXX /HEATHROW/BRITISH-AIRWAYS/GB@BRITISH AIRWAYS
cc
SubjeRequest for assistance: M.Sc Information Systems ctResearch Project

Good afternoon XXXX,

I trust you are well
Thank you for your help early last year providing me with information for my M.Sc studies. I'm contacting you to request your help again.
I was wondering if you would be available to mentor me through my research project ? Although, I fully understand if this is not possible.

I've discussed my plan briefly with X and XX, who initially arranged for XXX to mentor me. However, as you may be aware XXX is not due back on site until mid March.
After discussing my proposal with XXX a couple of days ago, he did agree that it may be best for me to revert back to you, not because Lee is not available presently but because the topic of my project has moved away from the IP Telephony technology area and into a business change area.

I hope you don't mind, but I would like to just provide you with a brief overview of the initial research proposal that I submitted to the University of Chester last week.

The objective of my research study is to evaluate the acceptance of the RMS allocation system within a T5 operations area (eg PSU or Ramp area including airacft movements or coaching).
This evaluation will be based on principles that are derived from Technology Acceptance Model theories. The questions I would like to answer are:

1. Do users in the operations area accept the new RMS allocating system as defined by the Technology Acceptance Model theory?
2. What is the perceived usefulness ? (to what degree do users perceive the new system to be useful to their job performance?)

3. What is the perceived ease of use? (to what degree do users perceive the new system to be easy to use?)

The research approach proposed will be a case study to incorporate participant observation. informal interviews and a questionnaire. The dissertation is expected to be between 12,000 and 16,000 words and I plan to submit the document in Sep-08.

Recently,I have been in contact with Rod Wilcock, who has relocated from the BACF leadership team here at Didsbury to the Ground Services unit at T5. Rod has agreed to help me in accessing users within the ramp operational areas, if this is the unit I choose to research.

I would be extremely grateful if you would consider guiding me through this research project - but again I do understand if this is not possible.

Thank you again for your time
Kind regards
Clare

Appendix A-2:

Project Planning- BA GTS Senior Management – Initial Discussions

First discussions; Nov-07

Table A2-1: BA GTS Senior Management contacts

Contact Ref.	Dept.	Job title	Reason for contact	Phase of research
X XX	Operations	Ground Services Ramp T5 Manager Aircraft Movements, GTS	Request permission to study a dept based at T5 airport operations that used RMS system. GTS was deemed the best dept to study	Research planning
XXX	Operations	GTS Senior Manager	Provide an initial overview of the RMS use at GTS	Planning & implementation

E-mail Strings

Clare

Thanks, that's very kind of you....and it would be a pleasure to help you in any way I am able to, at any time. All you need to do is shout! You are right, family life will be much better for us but I doubt if I will find a better Italian....!
Keep in touch and I hope i see you before I finally leave at the end of the month.
Kind Rgds
XXX

Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB
09/11/2007 09:43

To XXX / HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc

Morning XXX
I'm sincerely sorry to hear you'll be leaving Didsbury.
Its been an absolute pleasure assisting you with IT issues for you and your team. Your calm and patient attitude with us has been most appreciated.
I trust your family are looking forward to you working a little closer to home. 4 years has been a long time to commute - although you are sure to miss Danilo's Italian in Hale !
I do wish you all the very best in your new exciting role in T5. Infact, can I ask you a cheeky question? As you may be aware, I'm embarking on my research project to complete my MSc. For this, I'm researching the technology behind the RMS (Resource Management System), which is IP telephony technology. It would be most beneifical to my studies if I could gather relevant information from the business on a practical aspect, rather than just techical. I was wondering, would you mind if kept in touch and may be earlier next year I contacted you? However, I understand if this is not possible.
Take care XXX
Warm regards
Clare

XXX
/HEATHROW/BRITISH AIRWAYS/GB
08/11/2007 15:29

To Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc

Hi Clare..fine thanks how are you getting on? Oh, by the way, did I tell you I was moving on? I will be leaving Didsbury at the end of Nov and heading south to work for BA Ground Services T5 team. I will be sorry to leave MAN after nearly 4 years but at least I will get to see my family a bit more.

Thanks for your considerable help in my time here, good luck for the future and of course with your young family.

Best Wishes XXX

Good Morning Clare,

GTS are moving to T5 on the 1st May, so as you can appreciate I am busy with the preparation work. Please feel free to call after 7th May and we can discuss your needs. Alternatively if you can email, the information required, this may speed up the process. Look forward to hearing from you soon.
Best Regards.
XXX

Clare McCool/
MANCHESTER/BRITISH AIRWAYS/GB
24/04/2008 15:35

To XXX
/HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc
Subject Fw: Request for assistance - M.Sc. Research Project

Good afternoon XXX
I trust you are well
As per the below e-mails - could you advise the best time for me to call you?
Or please advise if I can provide further information to you via e-mail.
There is certainly no rush
Thank you
Kind regards
Clare

Clare McCool/
MANCHESTER/BRITISH AIRWAYS/GB
24/04/2008 14:29

To Rod Wilcock/HEATHROW/BRITISH AIRWAYS/GB
cc Andy Hunter/HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS

Afternoon Rod,
Many thanks to you and Andy in discussing my request and agreeing to help.
I totally understand why you would want me to avoid key times and I will speak to Kam and see if I could arrange my visits for July/August time.
This is very much appreciated XX, Thank you Clare

XXX
HEATHROW/BRITISH AIRWAYS/GB
24/04/2008 13:57

To XX
HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
XXX HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
Subject Fw: Request for assistance - M.Sc. Research Project

XXX
I have discussed Clare's request with XXX and he is supportive and willing to help. XXX has suggested that you are the right person to be the main contact to facilitate the work Clare needs to do and help to inform from the GTS perspective. I hope this OK.

Clare
XXX is the SM for GTS and has given clearance for XXX and the team to help you. One request is however that you avoid key times for his team These (for starters) will be the last week of April and first week of May and last week of May and first week of June. XXX however will be able to give you the critical timeline for his area.

I am also happy to participate at a later date as suggested and will help you arrange access to other senior people.

Good Luck, Kind Rgd
XXX

Hi Clare,

Now to early June, or post July would be good for me & the team. I believe that post July would be better for your research as GTS will finally move to T5 and our staff will be fully conversant with RMS. Clare, no problems or issues with helping you achieve your objectives, we will be glad to help.

XXX

Clare, no problem, see you there!

Clare McCool
/MANCHESTER/BRITISH AIRWAYS/GB
11/08/2008 14:28

To XXX
/HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
Subject Fw: Accepted: Brief discussion regarding M.Sc Research Study & Personal introduction

Good afternoon Kam,
Thank you for accepting my invitation for tomorrow at 14.30.
I've been advised that probably the best place to meet at T5 would be Krispy Kremes on the ground floor - south end of the concourse(??) I trust this is acceptable.
My contact number tomorrow will be 07780 616224
Many thanks again Looking forward to meeting you Clare

Clare
My pleasure, keep in touch and let me know when you are back at LHR.
XXXX

_____.

Clare McCool/
MANCHESTER/BRITISH AIRWAYS/GB
13/08/2008 08:57

To XXX
HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
Subject Thank you

Good morning XXX
t was just a quick - sincere- thank you for your time yesterday.
The information you provided was most beneficial, and thank you so much for signing my approval form that the university required.
I will be in contact again shortly if thats ok.
Many thanks again
Kind regards
Clare

Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB
04/08/2008 16:13

To XXX
/HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc

Subject Re: Fw: Request for assistance - M.Sc. Research Project
Notes Link

Good afternoon XXX
I trust you and yours are well.
I was wondering if I could request your assistance again with regards to my research study?

I'm in the process of submitting the final approval document to the University of Chester before I carry out the M.Sc. research project. One of the items Chester requires is a written approval from BA. I hope you don't mind, but I have taken the liberty of drafting such a letter and based upon our previous discussions, I hope you can sign this. (As unfortunately the ethics committee have refused to accept the below e-mails as permission for me to carry out the research). The drafted letter is attached.
I have plans to visit Waterside next week or the following week (although I am not sure of the date as yet). If you were available, I could provide you with a hard copy for you to sign. Alternatively, is it possible I could request that the letter is printed on BA headed paper, signed and sent to me at: XXXX I would be most grateful if you could assist.

Many thanks
Kind regards
Clare

_____

To XXX HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
XXX HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB@BRITISH AIRWAYS

Subject Fw: Request for assistance - M.Sc. Research Project

XXXXX
I have discussed Clare's request with Andy and he is supportive and willing to help. Andy has suggested that you are the right person to be the main contact to facilitate the work Clare needs to do and help to inform from the GTS perspective. I hope this OK.

Clare
XXX is the SM for GTS and has given clearance for XXX and the team to help you. One request is however that you avoid key times for his team These (for starters) will be the last week of April and first week of May and last week of May and first week of June.
I am also happy to participate at a later date as suggested and will help you arrange access to other senior people.

Good Luck, Kind Rgd
XXXX

XXX, thank you for this, its very much appreciated.
I'm sorry for imposing on your time. I met with XXX last week - and we had a fabulous discussion on the RMS technology and GTS in general.
XXX was so very helpful, and supportive - and has agreed to assist me in the research process. Thank you for putting me in contact with him.
I've recently moved over into the IM Overseas team - although I'm still based at Didsbury, I now have more frequent trips to WTS and I'll certainly let you know when I am next on site. Thank you again for all your help and support XXX.
Hope to see you soon,
Clare

XXX
HEATHROW/BRITISH AIRWAYS/GB
19/08/2008 13:36

To Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc

Subject Re: Fw: Request for assistance - M.Sc. Research Project
Notes Link

Clare
Apologies for the delay in my response. Life at T5 is fine at the moment and Ground Services is progressing well. I have signed and returned your letter as requested. Please give me a shout as and when you are next in London or planning to come down.
Kind Rgds XXX

Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB
04/08/2008 16:13

To XXX HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc
Subject Re: Fw: Request for assistance - M.Sc. Research Project Notes Link

Good afternoon XXX
I trust you and yours are well.
I was wondering if I could request your assistance again with regards to my research study?
I'm in the process of submitting the final approval document to the University of Chester before I carry out the M.Sc. research project. One of the items Chester requires is a written approval from BA. I hope you don't mind, but I have taken the liberty of drafting such a letter and based upon our previous discussions, I hope you can sign this. (As unfortunately the ethics committee have refused to accept the below e-mails as permission for me to carry out the research). The drafted letter is attached.
I have plans to visit Waterside next week or the following week (although I am not sure of the date as yet). If you were available, I could provide you with a hard copy for you to sign. Alternatively, is it possible I could request that the letter is printed on BA headed paper, signed and sent to me at: I would be most grateful if you could assist.
Many thanks
Kind regards
Clare

XXXX
HEATHROW/BRITISH AIRWAYS/GB
24/04/2008 13:57

To XXX /HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
XXX /HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
Subject Fw: Request for assistance - M.Sc. Research Project

XXXX
I have discussed Clare's request with Andy and he is supportive and willing to help. Andy has suggested that you are the right person to be the main contact to facilitate the work Clare needs to do and help to inform from the GTS perspective. I hope this OK.
Clare

XXX is the SM for GTS and has given clearance for XXX and the team to help you. One request is however that you avoid key times for his team These (for starters) will be the last week of April and first week of May and last week of May and first week of June. Kam however will be able to give you the critical timeline for his area.I am also happy to participate at a later date as suggested and will help you arrange access to other senior people.

Good Luck, Kind Rgd XXX

Clare McCool/
MANCHESTER/BRITISH AIRWAYS/GB
21/04/2008 11:23

To XXX HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc
Subject Re: Request for assistance - M.Sc. Research Project
Notes Link

Good Morning
I trust you are well
In reference to our e-mails below, I've now completed detailed discussions with my academic supervisor at Chester University.
You may recall that the subject of this research is to investigate 'User Acceptance of new IT Technology' and compare this with a number of published theories. As I wanted to focus on some feature of new IT Technology at T5, the RMS system seemed to be an ideal choice. Together with my academic supervisor, we have come to the conclusion that the best area for me to investigate would be coaching in the Ground Transport Services department . There were a number of factors that determined this:

1. Compared to the total T5 operation - I imagine the GTS coaching group is relatively small, hence I should be able to work with a manageable size sample that would be representative of the whole group.
2. In addition, this team will be relatively simple to determine the users acceptance of the RMS technology, as the basic operation of the coach transport system has not changed, although I believe that BA has taken delivery of 38 new airport buses for T5
3. Compared to other departments using RMS, such as baggage handing, new technologies as well as the new RMS task allocation system have been introduced. Hence it would be more difficult to determine the user acceptance of the RMS technology whilst the bugs in the baggage handling system are removed.

I hope this concept meets with your approval.
In further detail, I have proposed that I visit your operation on 3 separate occasions.
On each visit I propose to shadow (observe) and carry out a short interview with 3 coach drivers and 1 allocator as they perform their duties using the RMS system.
At a later date I would also hold interviews with senior managers and RMS stakeholders and hope that you would be able to participate in this role.

If you approve of this plan of action, may I ask if you could suggest a contact who could help me arrange the correct documentation or any further authority that I may require to carry out this research?
I sincerely appreciate your assistance with my project so far.

Many thanks again
Kind regards
Clare

XXX
HEATHROW/BRITISH AIRWAYS/GB
14/01/2008 16:33

To Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc
Subject Re: Request for assistance - M.Sc. Research Project Notes Link

Clare. It is a pleasure to help...so please do contact me as and when you need to.

Rgds XXX

Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB
14/01/2008 15:07

To Rod Wilcock/HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc
Subject Request for assistance - M.Sc. Research Project Notes Link

XXX, Hi

Many thanks for your reply - its much appreciated.
Observing any of the ramp area units using RMS would be great. I initially choose the PSU area because I carried out the role for a short time - 20 years ago (I'm sure its changed since!). Researching the ramp areas would also give me more awareness of other departments within the airline.

Although IM have allocated a mentor to guide me through my research, I have yet to discuss the project with him in any detail. Also, I am awaiting the university tutor to revert at the end of this week with the critique of my intial proposal. As this proposal is subject to change, would you mind if I came back to you later next week with a more detailed plan?
Many thanks for your help so far XXX.
However, please let me know at anytime if you are unable to help me - I do understand.
With thanks
Clare

XXX
HEATHROW/BRITISH AIRWAYS/GB
11/01/2008 09:09

To Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc
Subject Re: Request for assistance - M.Sc. Research Project Notes Link

Clare
Hi, thanks for getting in touch. I think that the study is feasible... however is it specifically RMS within Passenger Group you want to study? I can certainly assist if you want to use any of the Ramp areas (like aircraft movements, coaching (who also use RMS currently) or I can approach one of the SM's in Pax Group on your behalf... let me know what you would like to do and I will try to help.
Have a good weekend.
Kind Rgds XXX

Appendix A-3:
Project Planning - BA IM Senior Management – Detailed Discussions

Table A3-1: IM management contacts:

Contact Ref.	Dept.	Job title	Reason for contact	Phase of research
XXX	IM	Service delivery manager (regions) Line manager	Initial discussion on project Continuous guidance & authority.	Detailed planning
XXX	IM	IM Apps Maint - Operational Support (RMS Allocation and Airside Logistics)	To complete management questionnaire re RMS	Detailed planning
XXX	IM	IT Applications Maintenance & Support Manager	To complete management questionnaire re RMS	Detailed planning

E-mail Strings

Yes please I like to know how its going and what you find out.
Rgds
XXX

Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB
24/04/2008 11:11

To XXX HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc
Subject Ray HagertyNotes Link

Thanks XXX,
I'll send him a mail friday afternoon and make it clear that there is certainly no rush to reply back to me.
Thank you again - If its ok - I'll keep you update with how I get on.
Clare

XXXX /HEATHROW/BRITISH AIRWAYS/GB24/04/2008 11:07

Hi Clare,
Its XXX . It took me a few minutes to find it due to the numerous spellings..... I should have realised when we were talking yesterday but he will be a busy man at the moment with all going on at T5 so may struggle to give you immediate time. However I'm sure he will do what he can. The overview to the Service Controllers was scheduled for this morning but got cancelled last night. When its re-arranged if there is enough notice I will let you know.
Rgds
Steve

RITISH AIRWAYS/GB
24/04/2008 10:33

To XXXX HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS

Subject XXXX

Morning XXX
Many thanks for your time in discussing my dissertation yesterday - it was much appreciated.
Can I just confirm I noted down the correct contact name that you suggested as XXX
? As I am unable to find his entry in Notes to mither ... sorry contact him.
thanks again XXX
Kind regards
Clare

Hi Clare,
Thanks for letting me know. I hope all goes well.
Rgds
XXXX

Clare McCool
/MANCHESTER/BRITISH AIRWAYS/GB
02/02/2009 09:04

To XXXX HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS

cc

Subject Research study

Morning Steve,

I trust you are well

I just wanted to let you know, as per your recommendation a few months ago, that I'll be contacting Ray Hagerty shortly to ask if he will participate in my study re RMS acceptance.

Thanks again for your advice
Kind regards Clare

Wonderful –
many thanks XXX

XXXX
/HEATHROW/BRITISH AIRWAYS/GB
02/02/2009 09:49

To Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc
Subject Re: Request for assistance re M.Sc Research Study Notes Link

Clare
I'd be happy to assist, my calendar is always up-to-date so just send an invitation for any session(s) you need to set-up.
Regards,
XXX
Support Manager
Im Apps Maint - Operational Support (RMS Logistics)

To: XXXX /HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
From: Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB
Date: 02/02/2009 09:12
Subject: Request for assistance re M.Sc Research Study
Good morning XX
May I please request your assistance?
XXX has suggested that I contact you regarding a postgraduate research project that I am undertaking. I have worked for BA for 16 years and my present position is as an SDA based in Didsbury, Manchester. I am in the final year of a part time M.Sc course in Information Systems. In this final year I will carry out a practical research project, which has been approved by Senior Managers X & XX
The reason why I am contacting you is to ask if you could be a participant in this project. Essentially, this would involve either completing a one page questionnaire or allowing me to have a brief interview with you. (20-30mins). (All data that would be collected in this project would be retained under the data protection act and kept strictly confidential. Of course you would have the option to withdraw from this study at any time.)
I am presently in discussions with XX and XXX as this research project is focused on user acceptance of new IT technology, specifically RMS. The project will determine the level of user acceptance of the RMS system by the GTS staff. There are a number of 'User Acceptance Theories' and the data collected will be evaluated using the latest theories. There is a strong body of evidence that a high indicator of success of an IT project can be related to the degree to which the technology is accepted by the users. The basic principle is that if the factors that control user acceptance can be determined, then the success of new technology can be improved.
In early March-09, I plan to conduct interviews with managers (including yourself) and observe/interview users (ie.GTS drivers and allocators.)
XXX, I would be very pleased if you could participate in this study. However, I also realise that this is a very busy period for yourself and your colleagues and I completely understand if it is not possible for you to participate. If this is the case could you please suggest somebody who has an understanding of the RMS system?
Many thanks in anticipation.
Most kind regards
Clare

Clare
I'd be interested to hear the views you were given by the various business users. I've attached the questionnaire.
Regards,
XXX

Morning Ray,
I trust you are well
I have just spent the most invaluable weekend with some of the GTS team at the SAA, T5. 14

--lare McCool/MANCHESTER/BRITISH AIRWAYS/GB
06/03/2009 10:39

XXXXX /HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS

cc

Subject: Fw: Request for assistance re M.Sc Research Study

drivers were shadowed and interviewed, over the 3 days, and I spent approx 90mins with each driver. We had some great honest and open discussions regarding RMS (and their use of RDT). Also, X,X,X and X provided me with an overview of the system, together with some supportive documentation, which was also very useful for my study.
(In the methodology phase, shortly after sending you my last mail, I decided to remove allocators from the scope of this particular study, as I was having difficulties deciding upon an approach that would measure both the drivers and the allocators use of the RMS system - when the use was not the same.)

XXX, thank you for agreeing to meet and offering to spend time with me in discussing this topic, it is very much appreciated. I am, however, conducting my studies in my own time and at my own expense. I am unable to get duty travel approval to meet up with you and am using my leave to write up my paper, as such unable to travel in my own time to interview. I do however really appreciate the need to get your imput and hence would request your time in completing the attached questionnaire and that you may be available to follow up with any further queries that I have on the topic by phone or email

I very much trust that this is acceptable - many thanks for your time and support Ray,
Most kind regards
Clare

Clare
No, that's fine. Look forward to hearing from you.
XXX Doyle
IT Applications Maintenance & Support Manager

Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB
02/02/2009 12:04

Many thanks for your reply XXXX,
I have also been in contact with Ray this morning - to request his participation in this research, he has also kindly agreed to help me.
Would you mind if I came back to you within the month, once I have fully completed the methodology ?
Thank you again for your support
Clare

XXX
/HEATHROW/BRITISH AIRWAYS/GB
02/02/2009 11:06

Hello Clare,
I would be happy to participate in this project but the detail you need may be better provided by two people who work for me in this space. XXX (Applications Maintenance & Support Manager for the INFORM products) or his Team Leader XXX who regularly liaises with the business people using the RMS system.
Let me know what you think,
XXXX

Clare McCool/
MANCHESTER/BRITISH AIRWAYS/GB
02/02/2009 09:36

Good morning Mike,
I trust you are well. (My daughter Beth is now leaving the terrible two's and entering the even more terrible threes!)
You may recall, probably in an effort to maintain my sanity, I am undertaking an M.Sc course in Information Systems, in my spare time. At present, I am in my final year and I will conduct a practical research project. This project has previously been approved by managers, including XXX and Rod XXXX (IR Change Manager Ramp).

The reason why I am contacting you is to ask if you could be a participant in this project. Essentially, this would involve either completing a one page questionnaire or allowing me to have a brief interview with you. (20-30mins). All data that would be collected in this project would be retained under the data protection act and kept strictly confidential. Of course you would have the option to withdraw from this study at any time.

I am presently in discussions with XXX (Ground Transport Services -Section Manager) as this research project is focused on user acceptance of new IT technology, specifically RMS. The project will determine the level of user acceptance of the RMS system by the GTS staff. You are probably aware that there are a number of "User Acceptance Theories" and the data collected will be evaluated using the latest theories. There is a strong body of evidence that a high indicator of success of an IT project can be related to the degree to which the technology is accepted by the users. The basic principle is that if the factors that control user acceptance can be determined then the success of new technology can be improved.

In early March-09, I plan to conduct interviews (or questionaires) with managers (including yourself) and observe/interview users (ie.GTS drivers and allocators.)

XXX, I would be very pleased if you could participate in this study. However, I also realise that this is a very busy period for yourself and your colleagues and I completely understand if it is not possible for you to participate. If this is the case could you please suggest somebody who has an understanding of the relationship between business success, application service delivery and the implementation of new information technology?

Many thanks in anticipation.
Most kind regards
Clare

Appendix A-4:
Project Planning- BA GTS Senior Management -Detailed Discussions

Table A4-1: BA GTS Management contacts

Contact Ref.	Dept.	Job title	Reason for contact	Phase of research
X	Operations	GTS Senior Manager	Authorisation of actual visit	Planning & implementation
XX	Operations	GTS Shift Manager	Arranging details of visits GTS total population data Providing best contact for airside pass	Detailed planning, implementation & conducting the study
XXX	Operations T5	T5 Adm.	Arrange T5 airside pass	Detailed planning

E-mail Strings

XXX
HEATHROW/BRITISH AIRWAYS/GB
27/01/2009 11:14

To Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc
Subject Re: M.Sc research study Notes Link

Hi Clare
No worries I'm available whenever.
XXXX
Shift Manager GTS
LHR

Clare McCool/
MANCHESTER/BRITISH AIRWAYS/GB
22/01/2009 14:03

To XXXX
HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS

Subject M.Sc research study Notes Link

Good afternoon XXX
Many thanks for contacting me - and apologies for the delay in replying.
I plan to work on my studies this weekend. I trust its acceptable for me to revert back to you next week?
Thanks again Mark -Most kind regards
Clare _____

XXX
HEATHROW/BRITISH AIRWAYS/GB
18/01/2009 16:08

_ Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB@BRITISH AIRWAYS

To
cc
Subject Fw: Tues 13-Jan-09 13:15 meeting

Hi Clare
XXX has just given me the info on your research project, if I can be of any help in regards to your progress by all means feel free to drop me a call of schedule a meeting...
XXXX

XXXX
/HEATHROW/BRITISH
8/01/2009 15:58

To XXX/HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
Subject Fw: Tues 13-Jan-09 13:15 meeting

XXXX
Could you take a look at the below and respond to Clare please.
Thanks.
XXXX

XXXX
/MANCHESTER/BRITISH AIRWAYS/GB
12/01/2009 07:57

To XXXX /HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS

Subject Tues 13-Jan-09 13:15 meeting

Good morning XXX
Wishing you all the very best for the new year ..
I've attached some preparation notes for our meeting tomorrow - thank you again for accepting.
I do understand that you are on an operational shift, as such if you need to rearrange at anytime, I will be available on 07780 616224 throughout the day.
13.15 at Krispy Kremes - landside? ... my turn for the coffees !
Many thanks again XXXX
Most kind regards
Clare

Hi Clare
Those dates seem ok. I'll look into getting you that info so you can carry on with your study..
Be in touch soon..
Thanks
XXXXX

Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB
02/02/2009 08:53

To XXXX /HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc
Subject Re: M.Sc research study Notes Link

Morning XXX,
Many thanks for agreeing to assist me in my studies.
The project I am undertaking has been approved by senior management including XX. The research project is focused on user acceptance of new IT technology. Essentially, the project will determine the level of user acceptance of the RMS system by the GTS staff. There are a number of "User Acceptance Theories" and the data collected will be evaluated using the latest theories. (All data that would be collected in this project would be retained under the data protection act and kept strictly confidential. Of course the users do have the choice if they would like to participate in this study, and they can change their mind at any time.)
For my research, I plan to conduct participant observation (shadowing) and a brief interview including a questionnaire with 12 participants (9 GTS drivers and 3 GTS allocators, over 3 shift periods).
XXX has informed me that there are 178 drivers and 30 allocators in GTS. In order to obtain a representative sample I would require basic information on the total population. As such, would it be possible for you to provide:

1)Surname, gender, approx age of all the drivers
2)Surname, gender, approx age of all the allocators

XXX has already provided me with some information on approximately 50 managers. I have classified this data in the attached excel file. I am not totally sure of some of the data including the grade levels, but essentially I am trying to identify the allocators and the drivers. In addition I would like information on the age.
I would like to add a list of drivers and allocators to this spreadsheet. Could you please provide this data in whichever format is easiest for you.
Once I have received this data I will identify a representative sample, including alternates. I would like to conduct the practical shadowing and interviews in early March. At present I was thinking of a period Friday 06-Mar-09 until Sunday 08-Mar-09 do you think this would be convenient for you and your team?
XXX thank you again for all your help. If you would like to discuss this further please let me know and we can arrange the best time to do this.
Many thanks again
Clare

Good morning XXXX,
I hope you are well.

Can I ask, would you be best able to help me with regards to obtaining the correct passes for me to conduct my research at T5 ?
Presently I am planning this for 06/07/08 March -09
Would you be able to advise me if 'Allocators' of the RMS system are based airside or landside?
Thank you again XXX
Kind regards
Clare

Morning XXX,

Just to let you know after some thought have decided to amend my research slightly. I am hoping that this would minimise any issues with regards to passes, and benefit me in increasing the sample of the GTS RMS users.

My proposal is to:

1) Focus my study on the drivers (and the use of the RMS console).
2) Remove the allocators from the scope of the study
3) Increase the number of drivers that I shadow and interview to 6 per shift (TTL 18 drivers)

As I have been setting out the methodology of the study over the last few weeks, I have had a real issue in deciding on an approach that could measure both the drivers and allocators use of the RMS system - when the use is not the same. My original proposal was to shadow and interview a total of 3 allocators - hence the requirement for the allocators' data.
XXXX, I now do not require the allocators data - apologies if you have collated parts of this data for me.

With regards to passes, obviously I do have a BA pass that will enable me to travel with the driver. My research could just take place on journey's from T5 to WTS or BAWC.

Please could you let me know your thoughts/concerns ?
Many thanks again XXX
Kind regards
Clare

Clare McCool/MANCHESTER/BRITISH
AIRWAYS/GB
12/02/2009 11:31
Good morning XXXX
I hope you are well
Can I ask, would you be best able to help me with regards to obtaining the correct passes for me to conduct my research at T5 ?
Presently I am planning this for 06/07/08 March -09
Would you be able to advise me if 'Allocators' of the RMS system are based airside or landside?
Thank you again XXX
Kind regards
Clare

Hi Clare
I'm the process of looking at a signatory for you. With the date change can you give me a day to check as I'm heading up the T3 migration
and would like to be around to help you with anything you may need. I will be working on these days though on lates which I could probably
move about to suit you.
Do you need the details of 6 drivers on each of these respective days? As I will have to run it past the TU in all it's glory to make sure they
have no objections, which I don't expect, it's just a courtesy gesture. (The joys of working on the ramp!)
XXXX

Clare McCool/MANCHESTER/BRITISH
AIRWAYS/GB
16/02/2009 11:59

Morning XXX ,
Just to confirm my comments over sametime. I have obtained form8 - Application for 1-5 day temporary ID pass, as I am classed as a UK National, BAA will accept my driving licence as ID.
XXX, can I ask - I am ahead of schedule on the preparation for my research and I was wondering if it would be possible if I could reschedule my visit from 06/07/08 March to the week before Fri - 27/28 Feb & 1-Mar? I am aware that the T3 flightswitch change is planned for Wed 25-Feb and I understand if rescheduling my dates is not possible.
Thanks again for your support XXX
Most kind regards
Clare

Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB
16/02/2009 11:37

To T5 Reception/HEATHROW/BRITISH AIRWAYS/GB
cc
Subject Re: Fw: Request for temporary airside vistors passNotes Link

XXXX
hi
Many thanks for looking into this for me - its much appreciated
The BAA website showed a email address for the Heathrow media centre - which I contacted.
They have just sent me the Form8 - although I guess they shouldnt have !
But at least I have it now - (as attached). Many thanks for your offer to fax a copy.
I assume this can be completed on the day of my visit - with my escort and authorised signatory.
Thank you again XXXX
Most kind regards
Clare

T5 Reception/HEATHROW/BRITISH AIRWAYS/GB
Sent by: Karen Feeny/HEATHROW/BRITISH AIRWAYS/GB
16/02/2009 11:26

To Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc
Subject Re: Fw: Request for temporary airside vistors passNotes Link

Good Morning Clare
I'm afraid I was unable to forward the email onto the ID Office, as the address given was incorrect. I have also spoken to the ID Office on your behalf and was given the same information as you, that you need to complete form 8 from the BAA website. I can fax you a copy of the relevent form if thats a help (this will be accepted). If you email back or call with your fax number I can do that straight away to you.

Sorry, not the easiest of processes it seems.

Kind regards
XXXX

Clare McCool/
MANCHESTER/BRITISH AIRWAYS/GB
16/02/2009 10:34

To T5 Reception/HEATHROW/BRITISH AIRWAYS/GB@B AIRWAYS
cc
Subje Fw: Request for temporary airside vistors pass

Good morning
Sorry to disturb you again - but would you happen to have an email address for the T5 temporary pass office please?
I have just phoned the below number and was advised to download the temporary airside security pass from the BAA web site.
However, I am unable to find any such forms on this site and require a link to where the form is held to enable me to download and complete soonest.
Could you help ?
Kind regards
Clare

Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB
16/02/2009 09:32

To T5 Reception/HEATHROW/BRITISH AIRWAYS/GB
cc
Subject Re: Request for temporary airside vistors passNotes Link

Many thanks
XXXXX

T5 Reception/HEATHROW/BRITISH AIRWAYS/GB
16/02/2009 09:30

To Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc

Good Morning Clare
I have forwarded your email onto the T5 temporary pass office, who will contact you with the procedure for obtaining an airside pass. For your information their telephone number is If you intend to visit Landside areas only, we would issue the pass from the T5 Reception.
Hope this information helps.
With Regards
XXXXX
T5 Reception

Clare McCool/MANCHESTER/BRITISH AIRWAYS/GB
16/02/2009 09:23

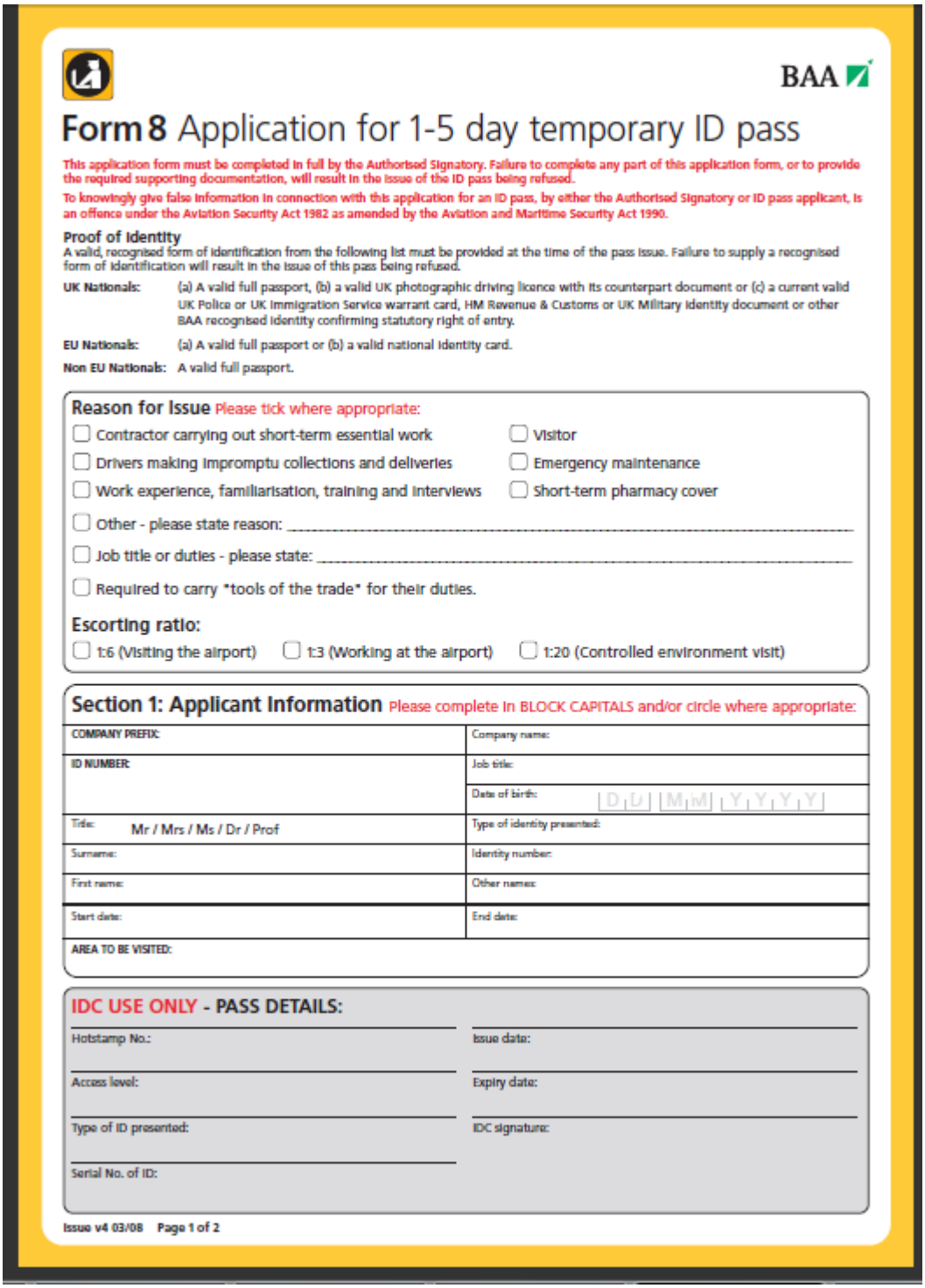
To T5 Reception/HEATHROW/BRITISH AIRWAYS/GB@BRITISH AIRWAYS
cc
Subject Request for temporary airside vistors pass

Good morning
Please could you help ?
I plan to visit Ground Transport Services at T5, and will be escorted at all times.
Could you advise what documentation is required, and the procedure for me in obtaining a temporary airside visitors pass please?
Many thanks

XXXXX

Appendix A-6:
Project Planning – BAA T5 Airside Pass

Figure A6-1: Temporary airside pass, page 1:



BAA

Form 8 Application for 1-5 day temporary ID pass

This application form must be completed in full by the Authorised Signatory. Failure to complete any part of this application form, or to provide the required supporting documentation, will result in the issue of the ID pass being refused.

To knowingly give false information in connection with this application for an ID pass, by either the Authorised Signatory or ID pass applicant, is an offence under the Aviation Security Act 1982 as amended by the Aviation and Maritime Security Act 1990.

Proof of Identity
A valid, recognised form of identification from the following list must be provided at the time of the pass issue. Failure to supply a recognised form of identification will result in the issue of this pass being refused.

UK Nationals: (a) A valid full passport, (b) a valid UK photographic driving licence with its counterpart document or (c) a current valid UK Police or UK Immigration Service warrant card, HM Revenue & Customs or UK Military identity document or other BAA recognised identity confirming statutory right of entry.

EU Nationals: (a) A valid full passport or (b) a valid national identity card.

Non EU Nationals: A valid full passport.

Reason for Issue Please tick where appropriate:

- ☐ Contractor carrying out short-term essential work
- ☐ Visitor
- ☐ Drivers making impromptu collections and deliveries
- ☐ Emergency maintenance
- ☐ Work experience, familiarisation, training and interviews
- ☐ Short-term pharmacy cover
- ☐ Other - please state reason: _____
- ☐ Job title or duties - please state: _____
- ☐ Required to carry "tools of the trade" for their duties.

Escorting ratio:

☐ 1:6 (Visiting the airport) ☐ 1:3 (Working at the airport) ☐ 1:20 (Controlled environment visit)

Section 1: Applicant Information Please complete in BLOCK CAPITALS and/or circle where appropriate:

COMPANY PREFIX:	Company name:
ID NUMBER:	Job title:
	Date of birth: [D,D] [M,M] [Y,Y,Y,Y]
Title: Mr / Mrs / Ms / Dr / Prof	Type of identity presented:
Surname:	Identity number:
First name:	Other names:
Start date:	End date:
AREA TO BE VISITED:	

IDC USE ONLY - PASS DETAILS:

Hotstamp No.:	Issue date:
Access level:	Expiry date:
Type of ID presented:	IDC signature:
Serial No. of ID:	

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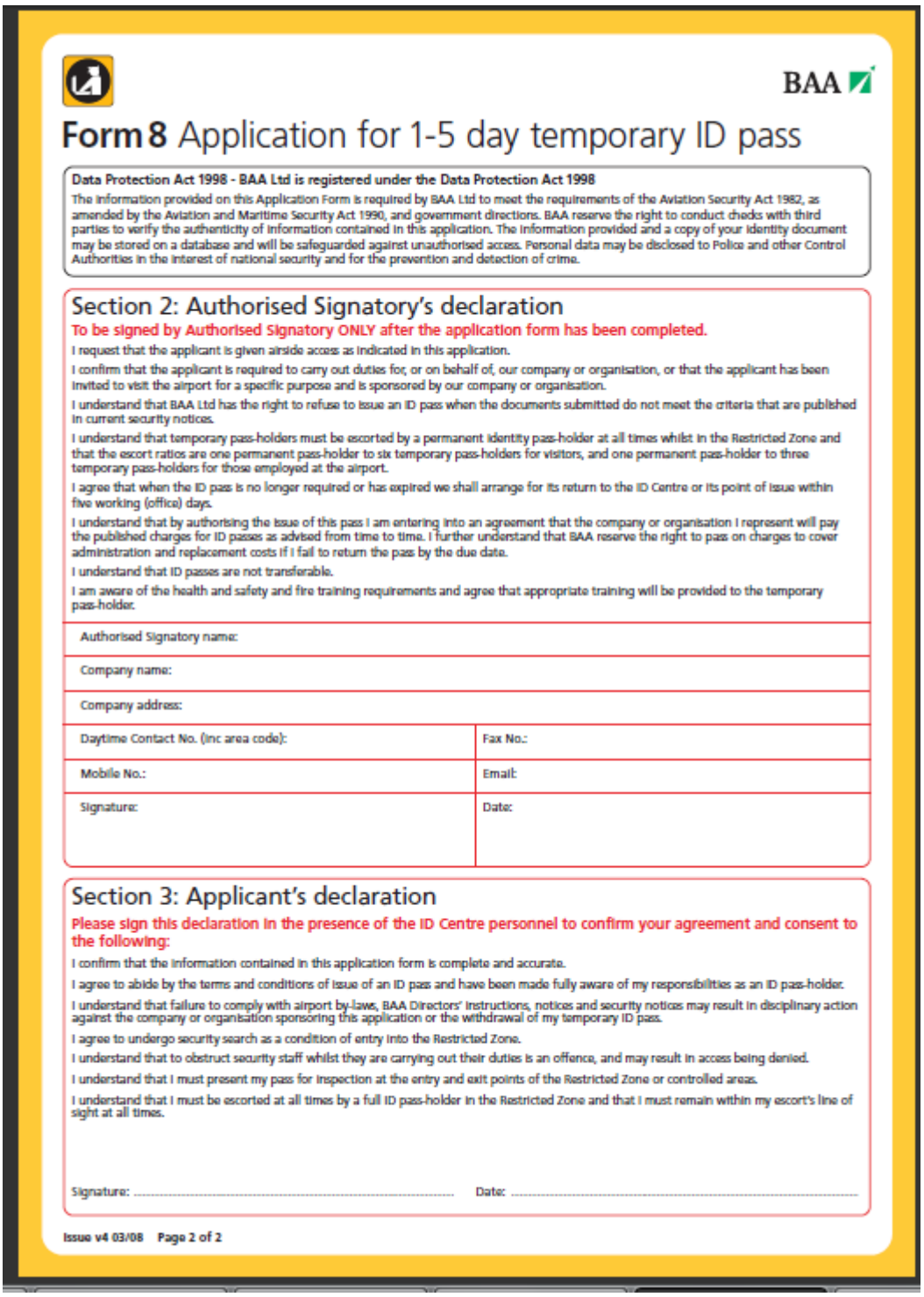
Figure A6-2: Temporary airside pass, page 2:



BAA

Form 8 Application for 1-5 day temporary ID pass

Data Protection Act 1998 - BAA Ltd is registered under the Data Protection Act 1998

The information provided on this Application Form is required by BAA Ltd to meet the requirements of the Aviation Security Act 1982, as amended by the Aviation and Maritime Security Act 1990, and government directions. BAA reserve the right to conduct checks with third parties to verify the authenticity of information contained in this application. The information provided and a copy of your identity document may be stored on a database and will be safeguarded against unauthorised access. Personal data may be disclosed to Police and other Control Authorities in the interest of national security and for the prevention and detection of crime.

Section 2: Authorised Signatory's declaration

To be signed by Authorised Signatory ONLY after the application form has been completed.

I request that the applicant is given airside access as indicated in this application.

I confirm that the applicant is required to carry out duties for, or on behalf of, our company or organisation, or that the applicant has been invited to visit the airport for a specific purpose and is sponsored by our company or organisation.

I understand that BAA Ltd has the right to refuse to issue an ID pass when the documents submitted do not meet the criteria that are published in current security notices.

I understand that temporary pass-holders must be escorted by a permanent identity pass-holder at all times whilst in the Restricted Zone and that the escort ratios are one permanent pass-holder to six temporary pass-holders for visitors, and one permanent pass-holder to three temporary pass-holders for those employed at the airport.

I agree that when the ID pass is no longer required or has expired we shall arrange for its return to the ID Centre or its point of issue within five working (office) days.

I understand that by authorising the issue of this pass I am entering into an agreement that the company or organisation I represent will pay the published charges for ID passes as advised from time to time. I further understand that BAA reserve the right to pass on charges to cover administration and replacement costs if I fail to return the pass by the due date.

I understand that ID passes are not transferable.

I am aware of the health and safety and fire training requirements and agree that appropriate training will be provided to the temporary pass-holder.

Authorised Signatory name:	
Company name:	
Company address:	
Daytime Contact No. (inc area code):	Fax No.:
Mobile No.:	Email:
Signature:	Date:

Section 3: Applicant's declaration

Please sign this declaration in the presence of the ID Centre personnel to confirm your agreement and consent to the following:

I confirm that the information contained in this application form is complete and accurate.

I agree to abide by the terms and conditions of issue of an ID pass and have been made fully aware of my responsibilities as an ID pass-holder.

I understand that failure to comply with airport by-laws, BAA Directors' instructions, notices and security notices may result in disciplinary action against the company or organisation sponsoring this application or the withdrawal of my temporary ID pass.

I agree to undergo security search as a condition of entry into the Restricted Zone.

I understand that to obstruct security staff whilst they are carrying out their duties is an offence, and may result in access being denied.

I understand that I must present my pass for inspection at the entry and exit points of the Restricted Zone or controlled areas.

I understand that I must be escorted at all times by a full ID pass-holder in the Restricted Zone and that I must remain within my escort's line of sight at all times.

Signature: ..... Date: .....

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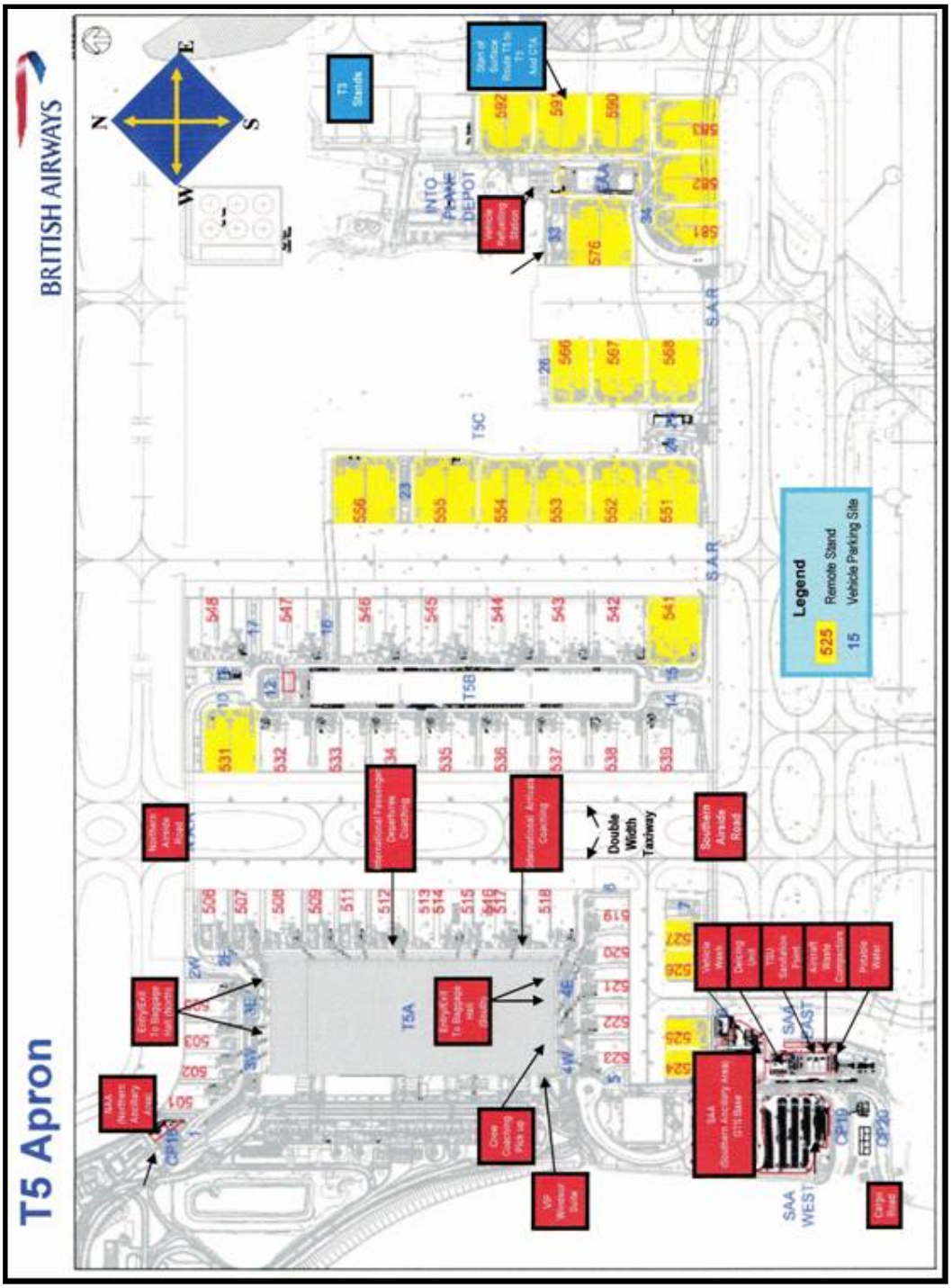
Appendix A-7:
Project Planning- Maps of Heathrow and T5

Figure A7-1: Heathrow Airfield

Figure A7-2: T5 BA Logistics Diagram



Appendix B-1:

Methodology – General Experimental Procedure

Table B1-1: General Experimental Procedure: Planned vs. Actual (1/3)

	Procedure steps	Planned	Actual
1	Scope of research	• Researcher wanted to carryout a BA in-house study that would have significant business relevance to BA.	• BA senior management recommended a T5 project, as 1) T5 is of critical importance to BA 2) T5 has the most up to date IT
2	Discussions with BA senior management : – continuous process	• Established a network of BA senior managers for project discussions.	BA IM managers: 1) IM Change manager 2) IBC T5 Change Consultant 3) Senior Resource Manager 4) Communication Networks Manager 5) Service Delivery Manager (Regions) 6) Application Maintenance Support Manager 7) Applications Maintenance Operational Support (RMS allocation and airside logistics) BA Ground Services manager: 1) Ground Services Manager (Ramp 2) GTS Senior Manger
3	Define area of research	• Review of literature showed that user acceptance is a significant factor for the business success of an IT project.	• BA management identified a major new business IT technology, RMS. RMS was a dramatic change to many departments within airport operations. Its capacity to reduce BA cost & improve the airline efficiency is significant. • Decision was made to study RMS in a small well defined environment.
4	Review T5 operation to determine most suitable department to study	• Department should be: 1) Relatively small. A sample size could be small & representative of the whole group 2) RMS is the only new technology to be introduced 3) Relatively limited usage of RMS 4) End users of the technology 5) All end users would use the technology in the same way	• GTS coach drivers were the ideal department to study • 173 drivers – a relatively small sample size could be chosen

Table B1-1: General Experimental Procedure: Planned vs. Actual (2/3)

	Procedure steps	Planned	Actual
5	Analysis of risks and limitations	Risks to be prioritised & mitigated Limitations to be identified	T5 is 200 miles from the researcher's base Time with participants would be limited due: 1) Researcher had to travel from home base 2) Time restrictions on T5 temporary airside pass, where participant's base was located Researcher would be dependent on escorts whilst airside Due to economic climate and BA restructuring: 1) Many senior mangers left during the course of the research 2) The researcher's job changed which meant that the research had to be rescheduled a number of times. 3) Initially BA had approved the cost of the research regarding travel. However this was withdrawn at the actual time of the researchers visit, and flights and hotel expenditure was covered by the researcher
6	Determine best methodology approach	Literature review indicated that case study approach was the most appropriate	Case study approach was chosen. This included: 1) Observation 2) Interview 3) Comments
7	Obtain BA management approval	Written approval was required for the ethics form	Written approval authorised by Ground Services Senior Manager, and GTS Senior Manager
8	Completing & submitting research proposal to ethics committee	Ethics form required	Detailed analysis of the research study was conducted. Ethics form submitted May-08 Ethics committee approved research Jun-08
9	Determine BA procedure for user acceptance of new technology	Contact BA IM Design Technical Authority (DTA). This is the authority that approves all software that BA uses. The researcher contacted the DTA in an effort to obtain the BA process for user acceptance	Detailed discussion with a number of BA staff indicated that there is no standard BA procedure for user acceptance after the technology has been implemented

Table B1-1: General Experimental Procedure: Planned vs. Actual (3/3)

	Procedure steps	Planned	Actual
10	Detailed plan of visit	• Identify GTS escort • The researcher was trying to avoid certain dates when some BA operation was switching from T1 and T4 to T3 • Plan to : 1) 7.5hour daily shift 2) 3 shifts over 3 days (fri/sat/sun) 3) cover the managers shifts of 14:00 until 22:00hrs 4) observe & interview 6 participants over each shift (18 in total) 5) spend under an hour with each participant	• GTS Senior manager, assigned GTS shift manager to escort & be responsible for the researcher whilst at T5 • The research was conducted on the 27-Feb, 28-Feb & 01Mar, 2009 • Over the 3 days, 8.5hrs per day were spent on site, covering 3 late shifts • Approx 70mins was spent with each participant • One participant did not want to be interviewed although observation was conducted. 14 participants were observed and 13 participants were interviewed • The shift manager was very accommodating & started his shifts earlier to escort the researcher
11	Obtain total population data	• Shift manager was contacted to provide total population data to the researcher	• However, total population data was not provided until after the researchers visit
12	Arrange travel & access arrangements	• Applied for BAA T5 airside temporary pass • Arranged flight and hotel travel arrangements	• T5 BA airport administrator was contacted to arrange the airside pass for 3 consecutive days on site. An airside pass was authorised by BA T5 airport manager and pass granted. Identification was sent prior to the trip and the researcher was interviewed by the BAA airside pass unit on the day of arrival.

Appendix B-2:

Methodology – Participant Consent Form

The following consent form was requested to be signed by each participant prior to their involvement in the research.

Title of Project: **British Airways Ground Transport Services Department at Heathrow Terminal 5 – User Acceptance of Mandated Technology** **Name of Researcher: Clare McCool**		
		Please initial box
1	I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask any questions	
2	I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason	
3	I agree to take part in the above study	

Name of Participant	Date	Signature
Researcher Clare McCool	Date	Signature

1 copy for participant: 1 copy for researcher

Appendix B-3:

Methodology – Participant Information Sheet

The following information sheet was provided to each participant prior to their involvement in the research.

Participant Information Sheet

I would like to invite you to take part in a research study. Before you decide, you need to understand why the research is being done and what it would involve for you. Please read the following information carefully. Talk to others about the study if you wish. Ask me if there is anything that is not clear or if you would like further information. Please take time to decide whether or not you wish to take part.

Thank you.

What is the purpose of the study?

The aim of the study is to evaluate acceptance of the computerised RMS task allocation system within the Ground Transport Services department. There is a well-known theory amongst the IT community that defines a number of factors that influence people's acceptance to new technology. I would like to gather your thoughts and perception on this theory when relating it to your acceptance to the RMS system.

This research study is part of my M.Sc. in Information Systems at the University of Chester. I have been an employee of British Airways for 14years, based in the IM (Information Management) department at Didsbury, Manchester. However, this study is not for carried out for BA. Individuals who participate will not be identified and the information gathered will be kept strictly confidential, so only I shall have access to the information. The information gathered will not influence any future developments of the RMS system.

Do I have to take part?

It is up to you to decide whether or not to take part. If you decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you do decide to take part you are still free to withdraw at any time and without giving a reason.

What will happen to me if I take part?

If you decide to take part you will be given this information sheet to keep and asked to sign the consent form. This will give your consent for me to shadow you whilst you use the RMS task allocation system and ask some informal questions about the system. This will take approximately 75minutes.

What are they possible disadvantages and risks of taking part?

There are no disadvantages or risks foreseen in taking part of this study

What are the possible benefits of taking part?

You will be contributing to my research project and ultimately to my qualification, for which I would be very grateful. However, otherwise unfortunately there are no personal benefits to you in taking part.

What if something goes wrong?

If you wish to complain or have any concerns about any aspect of the way you have approached or treated during the course of this study, please contact Dennis Holman, Associate Dean, Faculty of Applied & Health Sciences, University of Chester, Parkgate Road, Chester CH1 4BJ, United Kingdom, +44 (0)1244 513095

Will my taking part in the study be kept confidential?

Yes. All information that is collected during the course of the research will be kept strictly confidential so that only I, the researcher, will have access to such information.

What will happen to the results of the research study?

The results will be written up as a dissertation for the M.Sc. thesis. Individuals who participate will not be identified in this report or in any subsequent report or publication.

Who may I contact for further information?

If you would like more information, please contact myself with either of the following e-mail addresses, or write to either of the location addresses:

e-mail: clare.mccool@ba.com or 0313225@chester.ac.uk

Clare McCool
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Information Management
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Didsbury
Manchester,M20 2BA

Clare McCool
University of Chester
School of Applied and Health Sciences
Computer Science and Information Systems
Parkgate Road
Chester, CH1 4BJ

Many thanks

Clare McCool

Appendix B-4:

Methodology – Participant Observation and Comments Sheet

The following observation and comments sheet was used by the researcher to record notes made during the participant observation.

Date	
Time	
Bus number	
Shift	
Name	
Researchers participant's reference	

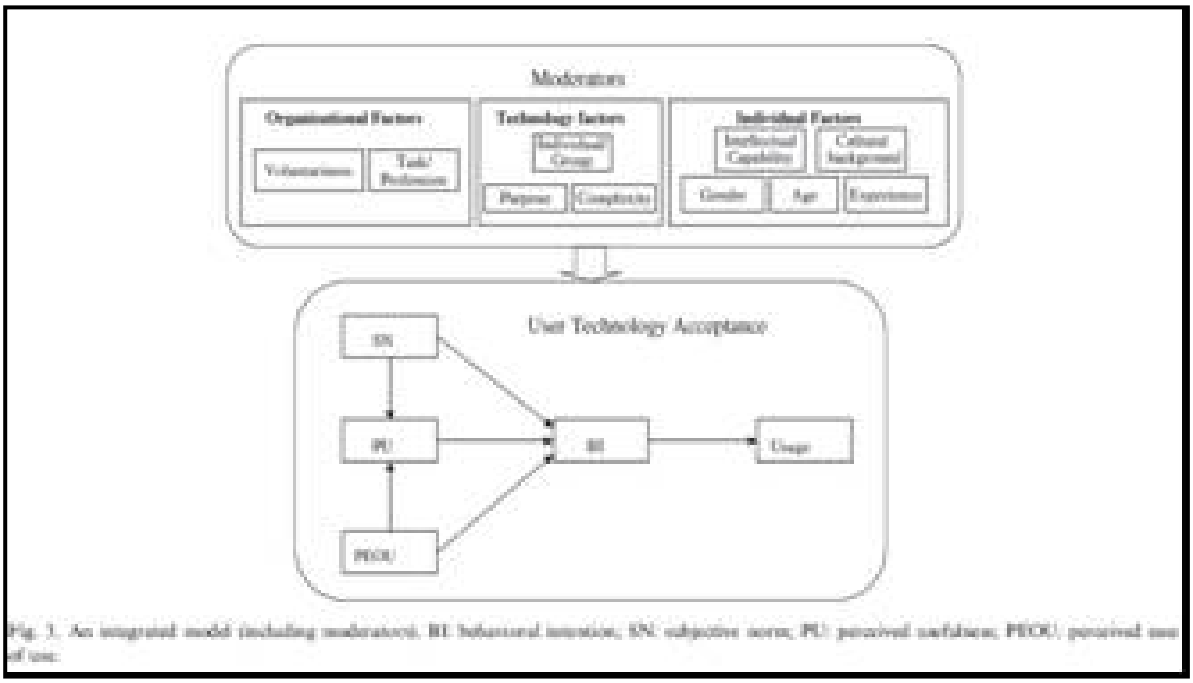
Time	Details:

Appendix B-5:

Methodology – Formal Interview Questions

Introduction

The objective of the user interview is to investigate the acceptance of the new RMS technology, as defined by Technology Acceptance theories. The most current theory, the integrated model Sun and Zhang (2005) is based upon the critical elements of earlier theories and encompasses more moderating factors. This questionnaire is designed to gather data on all the moderating factors identified by Sun and Zhang which are summarised on the following table:



The moderating factors and measurements from the above figure are coded and given in the table below.

Code	**Measurements**	**Details**
BI	Behavioural intention	Measure of an individuals intention to perform a specific behaviour
A	Attitude	Individuals positive or negative feelings about performing certain behaviour
SN	Subjective Norm	Individuals perception that most people who are important to him think that he should or shouldn't not perform a behaviour in question
U or PU	Perceived usefulness	The degree to which a person believes that using a particular system would enhance his or her job performance
PEOU	Perceived ease of use	The degree to which a person believes that using a particular system would be free of effort.
Usage	Actual usage	
Code	**Moderating factors**	**Comment relating to RMS**
OV-F	Organisation Factors : Voluntariness	Fixed
OV-TP	Organisation Factors: Task/Profession	Fixed
TF-IG	Technology Factors: Individual/group	Fixed
TF-P	Technology Factors: Purpose	Fixed
TF-C	Technology Factors: Complexity	Fixed
IF-G	Individual Factors: Gender	Variable
IF-A	Individual Factors: Age	Variable
IF-E	Individual Factors: Experience	Variable
IF-IC	Individual Factors: Intellectual Capability	Variable
IF-CB	Individual Factors: Cultural Background	Variable

Note: The code for the level of measurement is taken from Galliers (1992)

Formal interview questions

Section 1:

Measurements : Perceived ease of use : (Table A-1 : PEOU)

The degree to which a person believes that using a particular system would be free of effort.

How would you rate the following comments :

Question Code	Question	Level of Measurement	Results				
1.01	The user interface is easy to use	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
1.02	The font is easy to read	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
1.03	The colours used make it easy to view	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
1.04	The messages are friendly	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
1.05	The messages are confrontational	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
1.06	RMS system was easy to learn	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
1.07	RMS system procedures are easy to remember	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
1.08	The information is easy to understand	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
1.09	RMS keys and abbreviations are easy to remember (ie CD:crew departure)	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
1.10	Sufficient training was provided for RMS use	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
1.11	Time between training and actual live usage was sufficient	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
1.12	User support at initial stages of use was sufficient	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
1.13	Reference guides provided were sufficient	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
1.14	To what degree would you rate the RMS system easy to use?	Interval	0-19	20-39	40-59	60-79	80-100
1.15	Do you have any further comments to make on the actual use of the RMS system?	Open	XX				

Comments:

Section 2:

Measurements : Perceived usefulness : (Table A-1: U or PU)

The degree to which a person believes that using a particular system would enhance his or her job performance

How would you rate the following comments :

Question Code	Question	Level of Measurement	Results				
2.01	Compared to previous procedures the RMS system has made my job easier	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
2.02	Compared to the previous procedures the RMS system has enabled me to be more efficient	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
2.03	I can rely 100% on the accuracy of the information that RMS gives me	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
2.04	RMS response times are acceptable	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
2.05	RMS response times cause me delay	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
2.06	The user interface leads me to make fewer errors	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
2.07	The RMS system has significantly reduced communication errors.	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
2.08	The RMS system has enhanced my job performance	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
2.09	Sufficient procedures are in place if RMS is unusable	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
2.10	The RMS system has reduced the stress of my job	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
2.11	The RMS system has greatly reduced my paperwork	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
2.12	Overall to what degree would you rate the RMS system useful? (%)	Interval	0-19	20-39	40-59	60-79	80-100
2.13	Do you have any further comments to make on the usefulness or effectiveness of the RMS system?	Open	XX				

Comments:

Section 3:

Measurements : Subjective Norm (Table A-1: SN)

Individuals perception that most people who are important to the individual think that he/she should or should not perform a behaviour in question

How would you rate the following comments :

Question Code	Question	Level of Measurement	Results				
3.01	The RMS system significantly reduces BA's cost	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
3.02	The RMS system significantly improves BA's efficiency	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
3.03	Managers have motivated me to accept the RMS system	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
3.04	Most people who are important to me at work would be happy with my use of the RMS system	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
3.05	The other drivers use the RMS system correctly	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
3.06	Managers believe the RMS system is used correctly by the drivers	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
3.07	Do you have any further comments to make on this subject?	Open	XX				

Section 4

Measurements : Attitude (Table A-1: A)

Individuals positive or negative feelings about performing certain behaviour

How would you rate the following comments :

Question Code	Question	Level of Measurement.	Results				
4.01	I enjoy using the RMS system	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
4.02	The RMS system is good for drivers	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
4.03	The RMS system is good for BA	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
4.04	The RMS system has protected jobs	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
4.05	It is important that the RMS system provides me accurate information	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
4.06	The RMS system should be upgraded to enable me to answer passengers queries	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
4.07	The RMS system has directly caused job loses	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
4.08	QUESTION WITHDRAWN	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
4.09	If asked, I would contribute to discussions with regards to enhancing the RMS system	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
4.10	If asked, I would contribute to discussions with regards to suggesting resolutions to RMS issues	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
4.11	Are there any strong feelings you have on advantages or disadvantages of the RMS system	Open					

Section 5:

Measurements : Behavioural Intention: (Table A-1: BI)

Measure of an individuals intention to perform a specific behaviour

How would you rate the following comments:

Question Code	Question	Level of Measurement	Results				
5.01	I am very concerned if I get passengers to an aircraft late	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
5.02	I intend to work within the time scales that the RMS system permits	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
5.03	My intention is to fully utilise the RMS system	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
5.04	If this was an voluntary system I would chose to use it	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
5.05	I am aware of how the RMS system is intended to be used and I follow that standard	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
5.06	I would recommend the RMS system to be used in other organisations	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree
5.07	I would recommend the RMS system to be used in other BA departments	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree

Comments:

Section 6:

Moderating Factors

Individual Factors: Age & Gender (Table A-1 : IF-A & IF-G)

Question Code	Question	Level of Measurement	Result
6.01	Name	Open	Confidential
6.02	Researchers participants reference	Open	Researchers reference
6.03	Where interview took place	Open	Coach/Coffee Shop etc
6.04	Approx interview length	Open	Time
6.05	Gender (IF-G)	Nominal	Male/Female
6.06	Age (IF-A)	Open	XX

Section 7:

Individual factors : Cultural Background (Table A-1 : IF-CB)

Question Code	Question	Level of Measurement	Result				
7.01	Do you consider yourself to be:	Interval	Asian	Black	Caucasian	Latino	Other
7.02	Do you consider yourself to be:	Interval	British	European	Asian	North American	Other
7.03	What is your nationality?	Open	XX				
7.04	Where were you born?	Open	XX				
7.05	Where were your parents born	Open	XX				

Section 8:

Individual Factors: Skill Set (Table A-1 : IF-IC)

Question Code	Question	Level of Measurement	Results				
	Education						
8.01	At what age did you enter the workforce?:	Interval	<17	18	19	20	21>
8.02	Have you been in the forces?	Nominal	Yes	No			
8.03	Academic education	Interval	None	O'level	A'Level	Degree	Postgrad
8.04	Professional education/training	Nominal	Yes	No			
8.05	Adult further education	Nominal	Yes	No			
	Interests and leisure						
8.06	Do you regularly read a newspaper ?	Nominal	Yes	No			
8.07	If yes what would this be?	Interval	Daily Mail	The Times	The Guardian	Local paper	Other
8.08	Do you read magazines regularly	Nominal	Yes	No			
8.09	Do you do Crosswords regularly	Nominal	Yes	No			
8.10	Do you do Sudoku regularly	Nominal	Yes	No			
8.11	Do you play chess regularly	Nominal	Yes	No			
8.12	Do you play dominos regularly	Nominal	Yes	No			
8.13	Do you play cards regularly	Nominal	Yes	No			
8.14	Do you take part in pub quizzes regularly	Nominal	Yes	No			
8.15	How many books have you read in the last year?	Interval	More than 2 per week	Between 1 and 2 per week	Between 1 and 2 per month	Less than 10 a year	None
8.16	Were these mostly	Interval	Mostly Fiction	Mostly fact based	Mostly Auto/ biographies	Reference	Comic books
8.17	Would you mostly watch	Interval	News	Sport	Documentaries	Reality	Light entertainment
8.18	Would you listen to	Interval	Radio 1	Radio 2	Radio 4	Radio 5	Other
8.19	Do you play a musical instrument?	Nominal	Yes	No			
8.20	Do you speak a foreign language?	Nominal	Yes	No			

Section 9: Individual Factors: Experience (Table A-1: IF-E)							
Question Code	Question	Level of Measurement	Results				
	Experience within role						
9.01	How many years have you been an employee of British Airways?	Interval	<1	1-5	6-10	11-20	20>
9.02	How many years have you been in this particular role within BA?	Interval	<1	1-5	6-10	11-20	20>
9.03	Have you had experience within this role outside of BA?	Nominal	Yes	No			
9.04	If yes how many years experience?	Interval	<1	1-5	6-10	11-20	20>
	Experience with technology in general.						
9.05	Do you have a personal mobile phone?	Nominal	Yes	No			
9.06	How often do you carry it with you ? (% of time)	Interval	100%	75%	50%	25%	Never
9.07	How often is it turned on? (% of time)	Interval	100%	75%	50%	25%	Never
9.08	In a typical day how many calls do you receive/send per day?	Interval	<1	1-5	6-10	11-20	20>
9.09	And how many text messages do you receive /send per day?	Interval	<1	1-5	6-10	11-20	20>
9.10	Do you use the phones internet facility?	Nominal	Yes	No			
9.11	If yes, how many sites do you visit per day?	Interval	<1	1-5	6-10	11-20	20>
9.12	Do you have an iPod/MP3 player?	Nominal	Yes	No			
9.13	How often do you carry it around with you? (% of time)	Interval	100%	75%	50%	25%	Never
9.14	How often do you use it?	Interval	>5hrs/ day	5-2 hrs /day	< 1 hr /day	<1 hr /week	Never
9.15	How often do you download music via internet per day	Interval	>5hrs /day	5-2 hrs /day	<1 hr /day	<1 hr /week	Never
9.16	How often do you download music from vinyl	Interval	>5hrs /day	5-2 hrs /day	<1 hr /day	<1 hr /week	Never
9.17	Do you have access to a PC other than at BA?	Nominal	Yes	No			
9.18	Do you use this :	Interval	>5hrs /day	5-2 hrs /day	<1 hr /day	<1 hr week	Never
9.19	How would you rate your skill on applications such as word, excel et	Interval	Expert	Competent	Good	Poor	Very poor
9.20	And your skill on advanced applications such as web authoring, databases etc	Interval	Expert	Competent	Good	Poor	Very poor
9.21	Do you have access to the internet?	Nominal	Yes	No			
9.22	How often do you use this?	Interval	>5hrs / day	5-2 hrs per day	< 1 hr /day	< 1 hr /week	Never
9.23	How often do you use this time on e-mail?	Interval	Always	Mostly	Some time	Rarely	Never
9.24	How often do you use this time on shopping/travel sites?	Interval	Always	Mostly	Some time	Rarely	Never
9.25	How often do you use this time for research/library? (e.g. Wikipedia)	Interval	Always	Mostly	Some time	Rarely	Never
9.26	How often do you use this time for banking/ online payments?	Interval	Always	Mostly	Some time	Rarely	Never
9.27	How often do you use the BA intranet & ESS tools?	Interval	<5hrs /day	5-2 hrs per day	<1 hr /day	<1 hr /week	Never
9.28	How long have you worked with the RMS system?	Interval	<6 month	6-12 months	1-2 years	2-3 years	> 3 years

Appendix B-6:

Methodology – Management Questionnaire

The following letter was sent to senior managers and stakeholders of RMS.

Date

Dear XXX

May I ask for your help for a research project that I am carrying out?

This research project is the final part of a M.Sc. course that I am undertaking part time at the University of Chester. I have had detailed discussion with all levels of BA management. It was suggested that a T5 related project would be very worthwhile – specifically the study of user acceptance of the RMS technology by drivers in the GTS department.

The information gathered in this study is totally confidential and the data reported will be in such a manner that no individual would be identified. Nothing will be published without the approval of BA.

The RMS technology was chosen because it was recognised as major enabler for improving BA working practices. I should stress that I am not actively involved in the RMS system nor is our department in Manchester.

In the last 20years a number of research workers have studied and developed theories on the user acceptance of new IT systems. The driver for these studies has been the correlation that the higher the level of user acceptance the more successful will be the long term performance of the technology.

Data collected in this study will be analysed based upon the comprehensive integrated technology acceptance theory developed by Sun and Zhang (2005). The major element of this case study will be participant observation and detailed interviews with GTS drivers. However, it is also important to determine the management perception of the RMS system success and user acceptance. On this basis could you please complete the following questionnaire?

Kind regards

Clare McCool

Senior Service Delivery Analyst

IM DSD, Didsbury

How would you rate the following comments?

Please mark appropriate box – leave blank if not sure

	Question	Totally agree	Agree	Neutral	Disagree	Strongly disagree
1.1	I am involved in the day to day management of RMS					
1.2	I generate regular reports of RMS					
1.3	I receive regular reports of RMS					
1.4	I am involved in the support of RMS					
1.5	I am involved in the long term development of RMS					
1.6	I was involved in the development of the RMS concept					
1.7	I was involved in the implementation of RMS for GTS					
1.8	I was involved in the implementation of IP Telephony					
		Totally agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
2.1	There is a formal BA process for measuring the degree of success of implementation of new technologies like RMS					
2.2	RMS project generally was very successful					
2.3	RMS project was on schedule					
2.4	RMS project was within budget					
2.5	RMS project met its objectives					
2.6	In GTS, RMS implementation was very successful					
2.7	RMS was accepted by GTS drivers with no major problems					
		Totally agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
3.1	RMS has reduced costs for the GTS department					
3.2	RMS has improved efficiency for the GTS department					
3.3	In the design of RMS a major factor was user acceptance by GTS drivers					
3.4	RMS has been designed for ease of use for GTS drivers					
3.5	RMS is easy to use for GTS drivers					
3.6	RMS has been designed to make GTS drivers job easier					
3.7	RMS has made GTS drivers job easier					
		Totally agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
4.1	RMS is reliable for the GTS drivers					
4.2	GTS drivers make fewer errors using RMS					
4.3	RMS improves efficiency of GTS drivers					
4.4	GTS drivers receive accurate information from RMS X% of the time (Please tick box, or leave blank if not sure)	<90%	90-94%	95-98%	99%	100%
4.5	GTS drivers experience unplanned RMS system outages X% of the time (Please tick box, or leave blank if not sure)	>10%	10-6%	5-2%	1%	0%
5.1	I would estimate that the RMS system has a Return Of Investment (ROI) :	1 year	2 years	3 years	4 years	5 years +

6	**Comments:**
	If any of the above questions have prompted any comments, I would be most interested in your thoughts :

Appendix C-1: Population Data

1. Raw Data- Coded

Subject Code	Gender IF-G	Age Group IF-A	Culture Background IF-CB	Experience IF-E
001	M	Y	A	11-20 yrs
002	M	Y	A	20+ yrs
003	M	Y	A	20+ yrs
004	M	N	C	6-10 yrs
005	M	Y	C	11-20 yrs
006	M	Y	C	20+ yrs
007	M	Y	A	11-20 yrs
008	M	Y	C	11-20 yrs
009	M	Y	C	11-20 yrs
010	M	Y	C	20+ yrs
011	M	Y	C	20+ yrs
012	M	Y	C	20+ yrs
013	M	Y	C	20+ yrs
014	M	Y	A	11-20 yrs
015	M	Y	A	11-20 yrs
016	M	Y	A	11-20 yrs
017	M	Y	A	11-20 yrs
018	M	N	A	11-20 yrs
019	M	Y	A	11-20 yrs
020	M	Y	A	11-20 yrs
021	M	Y	A	11-20 yrs
022	M	Y	A	20+ yrs
023	M	Y	C	6-10 yrs
024	M	Y	C	11-20 yrs
025	M	Y	C	20+ yrs
026	M	Y	C	20+ yrs
027	F	Y	C	20+ yrs
028	M	Y	C	20+ yrs
029	M	Y	C	20+ yrs
030	M	Y	C	20+ yrs
031	M	Y	A	11-20 yrs
032	M	Y	A	11-20 yrs
033	M	Y	A	11-20 yrs
034	M	Y	A	11-20 yrs
035	M	Y	A	20+ yrs
036	M	Y	A	20+ yrs
037	M	Y	A	20+ yrs
038	M	Y	A	20+ yrs
039	M	Y	A	20+ yrs
040	M	Y	A	20+ yrs
041	M	Y	A	20+ yrs
042	M	Y	C	11-20 yrs
043	M	Y	C	11-20 yrs
044	M	Y	C	20+ yrs
045	M	Y	C	20+ yrs
046	M	Y	C	20+ yrs
047	M	Y	A	11-20 yrs
048	M	Y	A	11-20 yrs
049	M	Y	A	20+ yrs
050	M	Y	A	20+ yrs
051	M	Y	A	20+ yrs
052	M	Y	C	11-20 yrs
053	M	Y	C	11-20 yrs
054	M	Y	C	20+ yrs
055	M	Y	C	20+ yrs
056	M	Y	C	20+ yrs
057	M	Y	C	20+ yrs
058	M	Y	A	6-10 yrs
059	M	Y	A	11-20 yrs
060	M	Y	A	11-20 yrs
061	M	Y	A	20+ yrs
062	M	Y	A	20+ yrs
063	M	Y	C	20+ yrs
064	M	Y	C	20+ yrs
065	M	Y	A	11-20 yrs
066	M	Y	A	11-20 yrs
067	M	Y	A	11-20 yrs
068	M	Y	A	11-20 yrs
069	M	Y	A	11-20 yrs
070	M	Y	A	20+ yrs
071	M	Y	A	20+ yrs
072	M	Y	A	20+ yrs
073	M	Y	A	20+ yrs
074	M	Y	A	20+ yrs
075	M	Y	C	11-20 yrs
076	M	Y	C	11-20 yrs
077	M	Y	C	11-20 yrs
078	M	Y	C	20+ yrs
079	M	Y	C	20+ yrs
080	M	Y	C	20+ yrs
081	M	Y	C	20+ yrs
082	M	Y	C	11-20 yrs
083	M	N	C	11-20 yrs
084	M	Y	C	11-20 yrs
085	M	Y	A	1-5yr
086	M	Y	C	11-20 yrs
087	M	Y	C	11-20 yrs
088	M	Y	C	11-20 yrs
089	M	Y	C	20+ yrs
090	M	Y	A	6-10 yrs

Subject Code	Gender IF-G	Age Group IF-A	Culture Background IF-CB	Experience IF-E
091	M	Y	A	11-20 yrs
092	M	Y	A	11-20 yrs
093	M	Y	A	20+ yrs
094	M	Y	A	20+ yrs
095	M	Y	A	20+ yrs
096	M	Y	A	20+ yrs
097	M	Y	C	1-5yr
098	M	Y	C	6-10 yrs
099	M	N	C	11-20 yrs
100	M	Y	C	11-20 yrs
101	M	Y	C	11-20 yrs
102	M	Y	C	11-20 yrs
103	M	Y	C	20+ yrs
104	M	Y	C	20+ yrs
105	M	Y	C	20+ yrs
106	M	Y	C	20+ yrs
107	M	Y	A	11-20 yrs
108	M	Y	C	1-5yr
109	M	Y	C	11-20 yrs
110	M	Y	A	11-20 yrs
111	M	Y	A	20+ yrs
112	M	Y	A	20+ yrs
113	M	Y	A	20+ yrs
114	M	Y	A	20+ yrs
115	M	Y	A	1-5yr
116	M	N	A	1-5yr
117	M	Y	A	11-20 yrs
118	M	Y	A	11-20 yrs
119	M	Y	A	20+ yrs
120	M	Y	A	20+ yrs
121	M	Y	A	20+ yrs
122	M	Y	C	6-10 yrs
123	M	Y	C	11-20 yrs
124	M	Y	C	11-20 yrs
125	M	Y	C	20+ yrs
126	M	Y	C	20+ yrs
127	M	Y	C	20+ yrs
128	M	Y	C	20+ yrs
129	M	Y	A	11-20 yrs
130	M	Y	C	11-20 yrs
131	M	Y	C	20+ yrs
132	M	Y	A	11-20 yrs
133	M	Y	A	20+ yrs
134	M	Y	C	1-5yr
135	M	Y	C	1-5yr
136	M	Y	C	20+ yrs
137	M	Y	C	20+ yrs
138	M	Y	C	20+ yrs
139	M	Y	C	20+ yrs
140	M	Y	C	20+ yrs
141	M	Y	A	20+ yrs
142	M	Y	A	20+ yrs
143	M	Y	C	11-20 yrs
144	F	Y	C	11-20 yrs
145	M	Y	A	11-20 yrs
146	M	Y	A	11-20 yrs
147	M	Y	A	11-20 yrs
148	M	Y	A	20+ yrs
149	M	Y	A	20+ yrs
150	M	Y	C	11-20 yrs
151	F	Y	C	11-20 yrs
152	M	Y	C	11-20 yrs
153	M	Y	C	20+ yrs
154	M	Y	A	1-5yr
155	M	Y	A	6-10 yrs
156	M	Y	A	11-20 yrs
157	M	Y	A	11-20 yrs
158	M	Y	A	11-20 yrs
159	M	Y	A	11-20 yrs
160	M	Y	A	20+ yrs
161	M	Y	A	20+ yrs
162	M	Y	A	20+ yrs
163	M	N	A	20+ yrs
164	M	Y	C	6-10 yrs
165	M	Y	C	11-20 yrs
166	M	Y	C	20+ yrs
167	M	Y	C	20+ yrs
168	M	Y	C	20+ yrs
169	M	Y	C	20+ yrs
170	M	Y	C	20+ yrs
171	M	Y	C	20+ yrs
172	M	Y	C	20+ yrs
173	M	Y	C	20+ yrs

Gender	M	Male
	F	Female
Age	N	Less than 42 years of age
	Y	42 and over
Culture	A	Asian
	C	Caucasian
Experience		years working with BA

2. Data sorted by Gender

Subject Code	Gender IF-G	Age Group IF-A	Culture Background IF-CB	Experience IF-E
027	F	Y	C	20+ yrs
144	F	Y	C	11-20 yrs
151	F	Y	C	11-20 yrs
001	M	Y	A	11-20 yrs
002	M	Y	A	20+ yrs
003	M	Y	A	20+ yrs
004	M	N	C	6-10 yrs
005	M	Y	C	11-20 yrs
006	M	Y	C	20+ yrs
007	M	Y	A	11-20 yrs
008	M	Y	C	11-20 yrs
009	M	Y	C	11-20 yrs
010	M	Y	C	20+ yrs
011	M	Y	C	20+ yrs
012	M	Y	C	20+ yrs
013	M	Y	C	20+ yrs
014	M	Y	A	11-20 yrs
015	M	Y	A	11-20 yrs
016	M	Y	A	11-20 yrs
017	M	Y	A	11-20 yrs
018	M	N	A	11-20 yrs
019	M	Y	A	11-20 yrs
020	M	Y	A	11-20 yrs
021	M	Y	A	11-20 yrs
022	M	Y	A	20+ yrs
023	M	Y	C	6-10 yrs
024	M	Y	C	11-20 yrs
025	M	Y	C	20+ yrs
026	M	Y	C	20+ yrs
028	M	Y	C	20+ yrs
029	M	Y	C	20+ yrs
030	M	Y	C	20+ yrs
031	M	Y	A	11-20 yrs
032	M	Y	A	11-20 yrs
033	M	Y	A	11-20 yrs
034	M	Y	A	11-20 yrs
035	M	Y	A	20+ yrs
036	M	Y	A	20+ yrs
037	M	Y	A	20+ yrs
038	M	Y	A	20+ yrs
039	M	Y	A	20+ yrs
040	M	Y	A	20+ yrs
041	M	Y	A	20+ yrs
042	M	Y	C	11-20 yrs
043	M	Y	C	11-20 yrs
044	M	Y	C	20+ yrs
045	M	Y	C	20+ yrs
046	M	Y	C	20+ yrs
047	M	Y	A	11-20 yrs
048	M	Y	A	11-20 yrs
049	M	Y	A	20+ yrs
050	M	Y	A	20+ yrs
051	M	Y	A	20+ yrs
052	M	Y	C	11-20 yrs
053	M	Y	C	11-20 yrs
054	M	Y	C	20+ yrs
055	M	Y	C	20+ yrs
056	M	Y	C	20+ yrs
057	M	Y	C	20+ yrs
058	M	Y	A	6-10 yrs
059	M	Y	A	11-20 yrs
060	M	Y	A	11-20 yrs
061	M	Y	A	20+ yrs
062	M	Y	A	20+ yrs
063	M	Y	C	20+ yrs
064	M	Y	C	20+ yrs
065	M	Y	A	11-20 yrs
066	M	Y	A	11-20 yrs
067	M	Y	A	11-20 yrs
068	M	Y	A	11-20 yrs
069	M	Y	A	11-20 yrs
070	M	Y	A	20+ yrs
071	M	Y	A	20+ yrs
072	M	Y	A	20+ yrs
073	M	Y	A	20+ yrs
074	M	Y	A	20+ yrs
075	M	Y	C	11-20 yrs
076	M	Y	C	11-20 yrs
077	M	Y	C	11-20 yrs
078	M	Y	C	20+ yrs
079	M	Y	C	20+ yrs
080	M	Y	C	20+ yrs
081	M	Y	C	20+ yrs
082	M	Y	C	11-20 yrs
083	M	N	C	11-20 yrs
084	M	Y	C	11-20 yrs
085	M	Y	A	1-5yr
086	M	Y	C	11-20 yrs
087	M	Y	C	11-20 yrs
088	M	Y	C	11-20 yrs
089	M	Y	C	20+ yrs
090	M	Y	A	6-10 yrs
091	M	Y	A	11-20 yrs
092	M	Y	A	11-20 yrs
093	M	Y	A	20+ yrs
094	M	Y	A	20+ yrs
095	M	Y	A	20+ yrs
096	M	Y	A	20+ yrs
097	M	Y	C	1-5yr
098	M	Y	C	6-10 yrs
099	M	N	C	11-20 yrs
100	M	Y	C	11-20 yrs
101	M	Y	C	11-20 yrs
102	M	Y	C	11-20 yrs
103	M	Y	C	20+ yrs
104	M	Y	C	20+ yrs
105	M	Y	C	20+ yrs
106	M	Y	C	20+ yrs
107	M	Y	A	11-20 yrs
108	M	Y	C	1-5yr
109	M	Y	C	11-20 yrs
110	M	Y	A	11-20 yrs
111	M	Y	A	20+ yrs
112	M	Y	A	20+ yrs
113	M	Y	A	20+ yrs
114	M	Y	A	20+ yrs
115	M	Y	A	1-5yr
116	M	N	A	1-5yr
117	M	Y	A	11-20 yrs
118	M	Y	A	11-20 yrs
119	M	Y	A	20+ yrs
120	M	Y	A	20+ yrs
121	M	Y	A	20+ yrs
122	M	Y	C	6-10 yrs
123	M	Y	C	11-20 yrs
124	M	Y	C	11-20 yrs
125	M	Y	C	20+ yrs
126	M	Y	C	20+ yrs
127	M	Y	C	20+ yrs
128	M	Y	C	20+ yrs
129	M	Y	A	11-20 yrs
130	M	Y	C	11-20 yrs
131	M	Y	C	20+ yrs
132	M	Y	A	11-20 yrs
133	M	Y	A	20+ yrs
134	M	Y	C	1-5yr
135	M	Y	C	1-5yr
136	M	Y	C	20+ yrs
137	M	Y	C	20+ yrs
138	M	Y	C	20+ yrs
139	M	Y	C	20+ yrs
140	M	Y	C	20+ yrs
141	M	Y	A	20+ yrs
142	M	Y	A	20+ yrs
143	M	Y	C	11-20 yrs
145	M	Y	A	11-20 yrs
146	M	Y	A	11-20 yrs
147	M	Y	A	11-20 yrs
148	M	Y	A	20+ yrs
149	M	Y	A	20+ yrs
150	M	Y	C	11-20 yrs
152	M	Y	C	11-20 yrs
153	M	Y	C	20+ yrs
154	M	Y	A	1-5yr
155	M	Y	A	6-10 yrs
156	M	Y	A	11-20 yrs
157	M	Y	A	11-20 yrs
158	M	Y	A	11-20 yrs
159	M	Y	A	11-20 yrs
160	M	Y	A	20+ yrs
161	M	Y	A	20+ yrs
162	M	Y	A	20+ yrs
163	M	N	A	20+ yrs
164	M	Y	C	6-10 yrs
165	M	Y	C	11-20 yrs
166	M	Y	C	20+ yrs
167	M	Y	C	20+ yrs
168	M	Y	C	20+ yrs
169	M	Y	C	20+ yrs
170	M	Y	C	20+ yrs
171	M	Y	C	20+ yrs
172	M	Y	C	20+ yrs
173	M	Y	C	20+ yrs

Gender	M	Male
	F	Female
Age	N	Less than 42 years of age
	Y	42 and over
Culture	A	Asian
	C	Caucasian
Experience		years working with BA

3. Data sorted by Age

Subject Code	Gender IF-G	Age Group IF-A	Culture Background IF-CB	Experience IF-E
004	M	N	C	6-10 yrs
018	M	N	A	11-20 yrs
083	M	N	C	11-20 yrs
099	M	N	C	11-20 yrs
116	M	N	A	1-5yr
163	M	N	A	20+ yrs
027	F	Y	C	20+ yrs
144	F	Y	C	11-20 yrs
151	F	Y	C	11-20 yrs
001	M	Y	A	11-20 yrs
002	M	Y	A	20+ yrs
003	M	Y	A	20+ yrs
005	M	Y	C	11-20 yrs
006	M	Y	C	20+ yrs
007	M	Y	A	11-20 yrs
008	M	Y	C	11-20 yrs
009	M	Y	C	11-20 yrs
010	M	Y	C	20+ yrs
011	M	Y	C	20+ yrs
012	M	Y	C	20+ yrs
013	M	Y	C	20+ yrs
014	M	Y	A	11-20 yrs
015	M	Y	A	11-20 yrs
016	M	Y	A	11-20 yrs
017	M	Y	A	11-20 yrs
019	M	Y	A	11-20 yrs
020	M	Y	A	11-20 yrs
021	M	Y	A	11-20 yrs
022	M	Y	A	20+ yrs
023	M	Y	C	6-10 yrs
024	M	Y	C	11-20 yrs
025	M	Y	C	20+ yrs
026	M	Y	C	20+ yrs
028	M	Y	C	20+ yrs
029	M	Y	C	20+ yrs
030	M	Y	C	20+ yrs
031	M	Y	A	11-20 yrs
032	M	Y	A	11-20 yrs
033	M	Y	A	11-20 yrs
034	M	Y	A	11-20 yrs
035	M	Y	A	20+ yrs
036	M	Y	A	20+ yrs
037	M	Y	A	20+ yrs
038	M	Y	A	20+ yrs
039	M	Y	A	20+ yrs
040	M	Y	A	20+ yrs
041	M	Y	A	20+ yrs
042	M	Y	C	11-20 yrs
043	M	Y	C	11-20 yrs
044	M	Y	C	20+ yrs
045	M	Y	C	20+ yrs
046	M	Y	C	20+ yrs
047	M	Y	A	11-20 yrs
048	M	Y	A	11-20 yrs
049	M	Y	A	20+ yrs
050	M	Y	A	20+ yrs
051	M	Y	A	20+ yrs
052	M	Y	C	11-20 yrs
053	M	Y	C	11-20 yrs
054	M	Y	C	20+ yrs
055	M	Y	C	20+ yrs
056	M	Y	C	20+ yrs
057	M	Y	C	20+ yrs
058	M	Y	A	6-10 yrs
059	M	Y	A	11-20 yrs
060	M	Y	A	11-20 yrs
061	M	Y	A	20+ yrs
062	M	Y	A	20+ yrs
063	M	Y	C	20+ yrs
064	M	Y	C	20+ yrs
065	M	Y	A	11-20 yrs
066	M	Y	A	11-20 yrs
067	M	Y	A	11-20 yrs
068	M	Y	A	11-20 yrs
069	M	Y	A	11-20 yrs
070	M	Y	A	20+ yrs
071	M	Y	A	20+ yrs
072	M	Y	A	20+ yrs
073	M	Y	A	20+ yrs
074	M	Y	A	20+ yrs
075	M	Y	C	11-20 yrs
076	M	Y	C	11-20 yrs
077	M	Y	C	11-20 yrs
078	M	Y	C	20+ yrs
079	M	Y	C	20+ yrs
080	M	Y	C	20+ yrs
081	M	Y	C	20+ yrs
082	M	Y	C	11-20 yrs
084	M	Y	C	11-20 yrs
085	M	Y	A	1-5yr
086	M	Y	C	11-20 yrs
087	M	Y	C	11-20 yrs
088	M	Y	C	11-20 yrs
089	M	Y	C	20+ yrs
090	M	Y	A	6-10 yrs
091	M	Y	A	11-20 yrs
092	M	Y	A	11-20 yrs
093	M	Y	A	20+ yrs
094	M	Y	A	20+ yrs
095	M	Y	A	20+ yrs
096	M	Y	A	20+ yrs
097	M	Y	C	1-5yr
098	M	Y	C	6-10 yrs
100	M	Y	C	11-20 yrs
101	M	Y	C	11-20 yrs
102	M	Y	C	11-20 yrs
103	M	Y	C	20+ yrs
104	M	Y	C	20+ yrs
105	M	Y	C	20+ yrs
106	M	Y	C	20+ yrs
107	M	Y	A	11-20 yrs
108	M	Y	C	1-5yr
109	M	Y	C	11-20 yrs
110	M	Y	A	11-20 yrs
111	M	Y	A	20+ yrs
112	M	Y	A	20+ yrs
113	M	Y	A	20+ yrs
114	M	Y	A	20+ yrs
115	M	Y	A	1-5yr
117	M	Y	A	11-20 yrs
118	M	Y	A	11-20 yrs
119	M	Y	A	20+ yrs
120	M	Y	A	20+ yrs
121	M	Y	A	20+ yrs
122	M	Y	C	6-10 yrs
123	M	Y	C	11-20 yrs
124	M	Y	C	11-20 yrs
125	M	Y	C	20+ yrs
126	M	Y	C	20+ yrs
127	M	Y	C	20+ yrs
128	M	Y	C	20+ yrs
129	M	Y	A	11-20 yrs
130	M	Y	C	11-20 yrs
131	M	Y	C	20+ yrs
132	M	Y	A	11-20 yrs
133	M	Y	A	20+ yrs
134	M	Y	C	1-5yr
135	M	Y	C	1-5yr
136	M	Y	C	20+ yrs
137	M	Y	C	20+ yrs
138	M	Y	C	20+ yrs
139	M	Y	C	20+ yrs
140	M	Y	C	20+ yrs
141	M	Y	A	20+ yrs
142	M	Y	A	20+ yrs
143	M	Y	C	11-20 yrs
145	M	Y	A	11-20 yrs
146	M	Y	A	11-20 yrs
147	M	Y	A	11-20 yrs
148	M	Y	A	20+ yrs
149	M	Y	A	20+ yrs
150	M	Y	C	11-20 yrs
152	M	Y	C	11-20 yrs
153	M	Y	C	20+ yrs
154	M	Y	A	1-5yr
155	M	Y	A	6-10 yrs
156	M	Y	A	11-20 yrs
157	M	Y	A	11-20 yrs
158	M	Y	A	11-20 yrs
159	M	Y	A	11-20 yrs
160	M	Y	A	20+ yrs
161	M	Y	A	20+ yrs
162	M	Y	A	20+ yrs
164	M	Y	C	6-10 yrs
165	M	Y	C	11-20 yrs
166	M	Y	C	20+ yrs
167	M	Y	C	20+ yrs
168	M	Y	C	20+ yrs
169	M	Y	C	20+ yrs
170	M	Y	C	20+ yrs
171	M	Y	C	20+ yrs
172	M	Y	C	20+ yrs
173	M	Y	C	20+ yrs

Gender	M	Male
	F	Female
Age	N	Less than 42 years of age
	Y	42 and over
Culture	A	Asian
	C	Caucasian
Experience		years working with BA

4. Data sorted by Cultural Background

Subject Code	Gender IF-G	Age Group IF-A	Culture Background IF-CB	Experience IF-E
004	M	N	C	6-10 yrs
083	M	N	C	11-20 yrs
099	M	N	C	11-20 yrs
027	F	Y	C	20+ yrs
144	F	Y	C	11-20 yrs
151	F	Y	C	11-20 yrs
005	M	Y	C	11-20 yrs
006	M	Y	C	20+ yrs
008	M	Y	C	11-20 yrs
009	M	Y	C	11-20 yrs
010	M	Y	C	20+ yrs
011	M	Y	C	20+ yrs
012	M	Y	C	20+ yrs
013	M	Y	C	20+ yrs
023	M	Y	C	6-10 yrs
024	M	Y	C	11-20 yrs
025	M	Y	C	20+ yrs
026	M	Y	C	20+ yrs
028	M	Y	C	20+ yrs
029	M	Y	C	20+ yrs
030	M	Y	C	20+ yrs
042	M	Y	C	11-20 yrs
043	M	Y	C	11-20 yrs
044	M	Y	C	20+ yrs
045	M	Y	C	20+ yrs
046	M	Y	C	20+ yrs
052	M	Y	C	11-20 yrs
053	M	Y	C	11-20 yrs
054	M	Y	C	20+ yrs
055	M	Y	C	20+ yrs
056	M	Y	C	20+ yrs
057	M	Y	C	20+ yrs
063	M	Y	C	20+ yrs
064	M	Y	C	20+ yrs
075	M	Y	C	11-20 yrs
076	M	Y	C	11-20 yrs
077	M	Y	C	11-20 yrs
078	M	Y	C	20+ yrs
079	M	Y	C	20+ yrs
080	M	Y	C	20+ yrs
081	M	Y	C	20+ yrs
082	M	Y	C	11-20 yrs
084	M	Y	C	11-20 yrs
086	M	Y	C	11-20 yrs
087	M	Y	C	11-20 yrs
088	M	Y	C	11-20 yrs
089	M	Y	C	20+ yrs
097	M	Y	C	1-5yr
098	M	Y	C	6-10 yrs
100	M	Y	C	11-20 yrs
101	M	Y	C	11-20 yrs
102	M	Y	C	11-20 yrs
103	M	Y	C	20+ yrs
104	M	Y	C	20+ yrs
105	M	Y	C	20+ yrs
106	M	Y	C	20+ yrs
108	M	Y	C	1-5yr
109	M	Y	C	11-20 yrs
122	M	Y	C	6-10 yrs
123	M	Y	C	11-20 yrs
124	M	Y	C	11-20 yrs
125	M	Y	C	20+ yrs
126	M	Y	C	20+ yrs
127	M	Y	C	20+ yrs
128	M	Y	C	20+ yrs
130	M	Y	C	11-20 yrs
131	M	Y	C	20+ yrs
134	M	Y	C	1-5yr
135	M	Y	C	1-5yr
136	M	Y	C	20+ yrs
137	M	Y	C	20+ yrs
138	M	Y	C	20+ yrs
139	M	Y	C	20+ yrs
140	M	Y	C	20+ yrs
143	M	Y	C	11-20 yrs
150	M	Y	C	11-20 yrs
152	M	Y	C	11-20 yrs
153	M	Y	C	20+ yrs
164	M	Y	C	6-10 yrs
165	M	Y	C	11-20 yrs
166	M	Y	C	20+ yrs
167	M	Y	C	20+ yrs
168	M	Y	C	20+ yrs
169	M	Y	C	20+ yrs
170	M	Y	C	20+ yrs
171	M	Y	C	20+ yrs
172	M	Y	C	20+ yrs
173	M	Y	C	20+ yrs

Subject Code	Gender IF-G	Age Group IF-A	Culture Background IF-CB	Experience IF-E
018	M	N	A	11-20 yrs
116	M	N	A	1-5yr
163	M	N	A	20+ yrs
001	M	Y	A	11-20 yrs
002	M	Y	A	20+ yrs
003	M	Y	A	20+ yrs
007	M	Y	A	11-20 yrs
014	M	Y	A	11-20 yrs
015	M	Y	A	11-20 yrs
016	M	Y	A	11-20 yrs
017	M	Y	A	11-20 yrs
019	M	Y	A	11-20 yrs
020	M	Y	A	11-20 yrs
021	M	Y	A	11-20 yrs
022	M	Y	A	20+ yrs
031	M	Y	A	11-20 yrs
032	M	Y	A	11-20 yrs
033	M	Y	A	11-20 yrs
034	M	Y	A	11-20 yrs
035	M	Y	A	20+ yrs
036	M	Y	A	20+ yrs
037	M	Y	A	20+ yrs
038	M	Y	A	20+ yrs
039	M	Y	A	20+ yrs
040	M	Y	A	20+ yrs
041	M	Y	A	20+ yrs
047	M	Y	A	11-20 yrs
048	M	Y	A	11-20 yrs
049	M	Y	A	20+ yrs
050	M	Y	A	20+ yrs
051	M	Y	A	20+ yrs
058	M	Y	A	6-10 yrs
059	M	Y	A	11-20 yrs
060	M	Y	A	11-20 yrs
061	M	Y	A	20+ yrs
062	M	Y	A	20+ yrs
065	M	Y	A	11-20 yrs
066	M	Y	A	11-20 yrs
067	M	Y	A	11-20 yrs
068	M	Y	A	11-20 yrs
069	M	Y	A	11-20 yrs
070	M	Y	A	20+ yrs
071	M	Y	A	20+ yrs
072	M	Y	A	20+ yrs
073	M	Y	A	20+ yrs
074	M	Y	A	20+ yrs
085	M	Y	A	1-5yr
090	M	Y	A	6-10 yrs
091	M	Y	A	11-20 yrs
092	M	Y	A	11-20 yrs
093	M	Y	A	20+ yrs
094	M	Y	A	20+ yrs
095	M	Y	A	20+ yrs
096	M	Y	A	20+ yrs
107	M	Y	A	11-20 yrs
110	M	Y	A	11-20 yrs
111	M	Y	A	20+ yrs
112	M	Y	A	20+ yrs
113	M	Y	A	20+ yrs
114	M	Y	A	20+ yrs
115	M	Y	A	1-5yr
117	M	Y	A	11-20 yrs
118	M	Y	A	11-20 yrs
119	M	Y	A	20+ yrs
120	M	Y	A	20+ yrs
121	M	Y	A	20+ yrs
129	M	Y	A	11-20 yrs
132	M	Y	A	11-20 yrs
133	M	Y	A	20+ yrs
141	M	Y	A	20+ yrs
142	M	Y	A	20+ yrs
145	M	Y	A	11-20 yrs
146	M	Y	A	11-20 yrs
147	M	Y	A	11-20 yrs
148	M	Y	A	20+ yrs
149	M	Y	A	20+ yrs
154	M	Y	A	1-5yr
155	M	Y	A	6-10 yrs
156	M	Y	A	11-20 yrs
157	M	Y	A	11-20 yrs
158	M	Y	A	11-20 yrs
159	M	Y	A	11-20 yrs
160	M	Y	A	20+ yrs
161	M	Y	A	20+ yrs
162	M	Y	A	20+ yrs

Gender	M	Male
	F	Female
Age	N	Less than 42 years of age
	Y	42 and over
Culture	A	Asian
	C	Caucasian
Experience		years working with BA

5. Data sorted by Experience

Subject Code	Gender IF-G	Age Group IF-A	Culture Background IF-CB	Experience IF-E
097	M	Y	C	1-5yr
108	M	Y	C	1-5yr
134	M	Y	C	1-5yr
135	M	Y	C	1-5yr
116	M	N	A	1-5yr
085	M	Y	A	1-5yr
115	M	Y	A	1-5yr
154	M	Y	A	1-5yr
004	M	N	C	6-10 yrs
023	M	Y	C	6-10 yrs
098	M	Y	C	6-10 yrs
122	M	Y	C	6-10 yrs
164	M	Y	C	6-10 yrs
058	M	Y	A	6-10 yrs
090	M	Y	A	6-10 yrs
155	M	Y	A	6-10 yrs
083	M	N	C	11-20 yrs
099	M	N	C	11-20 yrs
144	F	Y	C	11-20 yrs
151	F	Y	C	11-20 yrs
005	M	Y	C	11-20 yrs
008	M	Y	C	11-20 yrs
009	M	Y	C	11-20 yrs
024	M	Y	C	11-20 yrs
042	M	Y	C	11-20 yrs
043	M	Y	C	11-20 yrs
052	M	Y	C	11-20 yrs
053	M	Y	C	11-20 yrs
075	M	Y	C	11-20 yrs
076	M	Y	C	11-20 yrs
077	M	Y	C	11-20 yrs
082	M	Y	C	11-20 yrs
084	M	Y	C	11-20 yrs
086	M	Y	C	11-20 yrs
087	M	Y	C	11-20 yrs
088	M	Y	C	11-20 yrs
100	M	Y	C	11-20 yrs
101	M	Y	C	11-20 yrs
102	M	Y	C	11-20 yrs
109	M	Y	C	11-20 yrs
123	M	Y	C	11-20 yrs
124	M	Y	C	11-20 yrs
130	M	Y	C	11-20 yrs
143	M	Y	C	11-20 yrs
150	M	Y	C	11-20 yrs
152	M	Y	C	11-20 yrs
165	M	Y	C	11-20 yrs
018	M	N	A	11-20 yrs
001	M	Y	A	11-20 yrs
007	M	Y	A	11-20 yrs
014	M	Y	A	11-20 yrs
015	M	Y	A	11-20 yrs
016	M	Y	A	11-20 yrs
017	M	Y	A	11-20 yrs
019	M	Y	A	11-20 yrs
020	M	Y	A	11-20 yrs
021	M	Y	A	11-20 yrs
031	M	Y	A	11-20 yrs
032	M	Y	A	11-20 yrs
033	M	Y	A	11-20 yrs
034	M	Y	A	11-20 yrs
047	M	Y	A	11-20 yrs
048	M	Y	A	11-20 yrs
059	M	Y	A	11-20 yrs
060	M	Y	A	11-20 yrs
065	M	Y	A	11-20 yrs
066	M	Y	A	11-20 yrs
067	M	Y	A	11-20 yrs
068	M	Y	A	11-20 yrs
069	M	Y	A	11-20 yrs
091	M	Y	A	11-20 yrs
092	M	Y	A	11-20 yrs
107	M	Y	A	11-20 yrs
110	M	Y	A	11-20 yrs
117	M	Y	A	11-20 yrs
118	M	Y	A	11-20 yrs
129	M	Y	A	11-20 yrs
132	M	Y	A	11-20 yrs
145	M	Y	A	11-20 yrs
146	M	Y	A	11-20 yrs
147	M	Y	A	11-20 yrs
156	M	Y	A	11-20 yrs
157	M	Y	A	11-20 yrs
158	M	Y	A	11-20 yrs
159	M	Y	A	11-20 yrs

Subject Code	Gender IF-G	Age Group IF-A	Culture Background IF-CB	Experience IF-E
027	F	Y	C	20+ yrs
006	M	Y	C	20+ yrs
010	M	Y	C	20+ yrs
011	M	Y	C	20+ yrs
012	M	Y	C	20+ yrs
013	M	Y	C	20+ yrs
025	M	Y	C	20+ yrs
026	M	Y	C	20+ yrs
028	M	Y	C	20+ yrs
029	M	Y	C	20+ yrs
030	M	Y	C	20+ yrs
044	M	Y	C	20+ yrs
045	M	Y	C	20+ yrs
046	M	Y	C	20+ yrs
054	M	Y	C	20+ yrs
055	M	Y	C	20+ yrs
056	M	Y	C	20+ yrs
057	M	Y	C	20+ yrs
063	M	Y	C	20+ yrs
064	M	Y	C	20+ yrs
078	M	Y	C	20+ yrs
079	M	Y	C	20+ yrs
080	M	Y	C	20+ yrs
081	M	Y	C	20+ yrs
089	M	Y	C	20+ yrs
103	M	Y	C	20+ yrs
104	M	Y	C	20+ yrs
105	M	Y	C	20+ yrs
106	M	Y	C	20+ yrs
125	M	Y	C	20+ yrs
126	M	Y	C	20+ yrs
127	M	Y	C	20+ yrs
128	M	Y	C	20+ yrs
131	M	Y	C	20+ yrs
136	M	Y	C	20+ yrs
137	M	Y	C	20+ yrs
138	M	Y	C	20+ yrs
139	M	Y	C	20+ yrs
140	M	Y	C	20+ yrs
153	M	Y	C	20+ yrs
166	M	Y	C	20+ yrs
167	M	Y	C	20+ yrs
168	M	Y	C	20+ yrs
169	M	Y	C	20+ yrs
170	M	Y	C	20+ yrs
171	M	Y	C	20+ yrs
172	M	Y	C	20+ yrs
173	M	Y	C	20+ yrs
163	M	N	A	20+ yrs
002	M	Y	A	20+ yrs
003	M	Y	A	20+ yrs
022	M	Y	A	20+ yrs
035	M	Y	A	20+ yrs
036	M	Y	A	20+ yrs
037	M	Y	A	20+ yrs
038	M	Y	A	20+ yrs
039	M	Y	A	20+ yrs
040	M	Y	A	20+ yrs
041	M	Y	A	20+ yrs
049	M	Y	A	20+ yrs
050	M	Y	A	20+ yrs
051	M	Y	A	20+ yrs
061	M	Y	A	20+ yrs
062	M	Y	A	20+ yrs
070	M	Y	A	20+ yrs
071	M	Y	A	20+ yrs
072	M	Y	A	20+ yrs
073	M	Y	A	20+ yrs
074	M	Y	A	20+ yrs
093	M	Y	A	20+ yrs
094	M	Y	A	20+ yrs
095	M	Y	A	20+ yrs
096	M	Y	A	20+ yrs
111	M	Y	A	20+ yrs
112	M	Y	A	20+ yrs
113	M	Y	A	20+ yrs
114	M	Y	A	20+ yrs
119	M	Y	A	20+ yrs
120	M	Y	A	20+ yrs
121	M	Y	A	20+ yrs
133	M	Y	A	20+ yrs
141	M	Y	A	20+ yrs
142	M	Y	A	20+ yrs
148	M	Y	A	20+ yrs
149	M	Y	A	20+ yrs
160	M	Y	A	20+ yrs
161	M	Y	A	20+ yrs
162	M	Y	A	20+ yrs

Gender	M	Male
	F	Female
Age	N	Less than 42 years of age
	Y	42 and over
Culture	A	Asian
	C	Caucasian
Experience		years working with BA

Appendix C-2: Sample Data

Subject Code	Time with participant (mins)	Gender (IF-G)	Age years (IF-A)	Cultural Background (IF-IC)	Experience (IF-E)	Participant		
						Observation	Questionnaire	Comments
011	60	male	Above 42	Caucasian	20+ yrs	Yes	Yes	Yes
015	75	male	Above 42	Asian	11-20 yrs	Yes	Yes	Yes
035	45	male	Above 42	Asian	20+ yrs	Yes	Yes	Yes
073	60	male	Above 42	Asian	20+ yrs	Yes	Yes	Yes
075	70	male	Above 42	Caucasian	11-20 yrs	Yes	Yes	Yes
083	125	male	Below 42	Caucasian	11-20 yrs	Yes	Yes	Yes
112	60	male	Above 42	Asian	20+ yrs	Yes	Yes	Yes
114	75	male	Above 42	Asian	20+ yrs	Yes	Yes	Yes
118	70	male	Above 42	Asian	11-20 yrs	Yes	Yes	Yes
129	75	male	Above 42	Asian	11-20 yrs	Yes	Yes	Yes
148	65	male	Above 42	Asian	20+ yrs	Yes	Yes	Yes
150	45	male	Above 42	Caucasian	11-20 yrs	Yes	No	No
157	65	male	Above 42	Asian	11-20 yrs	Yes	Yes	Yes
171	80	male	Above 42	Caucasian	20+ yrs	Yes	Yes	Yes

Appendix C-3: Comparison of Sample and Total Population

Table C3-1: Comparison of Sample and Total Population

Item	Reference	Details	Total Population		Sample		Comment
			Number	%	Number	%	
Number			173		13		Sample is 7.5% of population
Gender	IF-G						
		Male	170	98.3%	13	100.0%	Good agreement
		Female	3	1.7%	0	0.0%	Good agreement
Age	IF-A						
		Below 42	6	3.5%	1	7.7%	Good agreement
		Above 42	167	96.5%	12	92.3%	Good agreement
Culture Background	IF-CB						
		Asian	85	49.1%	8	61.5%	Sample is high
		Caucasian	88	50.9%	5	38.5%	Sample is low
Experience (working with BA)	IF-E-BA						
		< 1 yr	0	0.0%	0	0.0%	Good agreement
		1-5 yrs	8	4.6%	0	0.0%	Good agreement
		6-10 yrs	8	4.6%	0	0.0%	Good agreement
		11-20 yrs	69	39.9%	6	46.2%	Good agreement
		20+ yrs	88	50.9%	7	53.8%	Good agreement
		Total	173	100%	13	100%	
		< 11 yrs	16	9.2%	0	0.0%	Sample a little low
		> 11 yrs	157	90.8%	13	100.0%	Sample a little high
		Total	173	100%	13	100%	

Table C3-2: Theoretical Adjustment of Sample

Theoretical Calculation
To achieve a more representative sample
Repeat field work with 3 additional participants

1	Culture background	3 Caucasian
2	Age	Above 42
3	Experience	1 with 1-5 yrs 1 with 6-10 yrs 1 with 20+ yrs

Item	Reference	Details	Total Population		Sample		Comment
			Number	%	Number	%	
Number			173		16		Sample is 9.2% of population
Gender	IF-G						
		Male	170	98.3%	16	100.0%	Good agreement
		Female	3	1.7%	0	0.0%	Good agreement
		Total	173	100.0%	16	100.0%	
Age	IF-A						
		Below 42	6	3.5%	1	6.3%	Good agreement
		Above 42	167	96.5%	15	93.8%	Good agreement
		Total	173	100.0%	16	100.0%	
Culture Background	IF-CB						
		Asian	85	49.1%	8	50.0%	Good agreement
		Caucasian	88	50.9%	8	50.0%	Good agreement
		Total	173	100.0%	16	100.0%	
Experience (working with BA)	IF-E-BA						
		< 1 yr	0	0.0%	0	0.0%	Good agreement
		1-5 yrs	8	4.6%	1	6.3%	Good agreement
		6-10 yrs	8	4.6%	1	6.3%	Good agreement
		11-20 yrs	69	39.9%	6	37.5%	Good agreement
		20+ yrs	88	50.9%	8	50.0%	Good agreement
		Total	173	100%	16	100%	
		< 11 yrs	16	9.2%	2	12.5%	Good agreement
		> 11 yrs	157	90.8%	14	87.5%	Good agreement
		Total	173	100%	16	100.0%	

Appendix C-4: Participant Observations and Comments

Table C4--1: Participant Observation: RTD usage -1(2)

Subject code	Task	Task noted	Time with partici-pant (mins)	RDT usage					
				Accept	Arrived	Set Off	Arrived	End	Other use
11	1) Pax dept: to aircraft: NYC	N	60	N/A	N/A	Y	Y	Y	N
15	1) Pax dept: to aircraft: JFK	N	75	N/A	N/A	Y	Y	Y: Did not complete task until interview completed	N
35	1) Pax Dept: to aircraft : FRA	N	45	N/A	N/A	Y	Y	Y	N Although RMS should have been used for 2nd task
	2) Aircraft to Pax dept- collect last pax			N	N	N	N	N	
73	1) Aircraft stand: inbound DUS, pax to international arrivals	N	60	N/A	N/A	Y	Y	Y	N
75	1) Pax dept: to aircraft : AMS	N	70	N/A	N/A	Y	Y	Y	N
83	1) Pax Dept: to aircraft : MIL	N	125	N/A	N/A	Y	Y	Y	N
	2) Pax Dept: to aircraft : YYC			Y	Y	Y	Y	Y	

Table C4--1: Participant Observation: RTD usage -2(2)

Subject code	Task	Task noted	Time with partici-pant (mins)	RDT usage					
				Accept	Arrived	Set Off	Arrived	End	Other use
114	1) Crew from aircraft to T5	N	75	N/A	N/A	Y	Y	Y	N
118	1)Pax dept: to aircraft : ARN	N	70	No view due older bus	No view due older bus	No view due older bus	No view due older bus	No view due older bus	N
129	1) Pax Dept: to aircraft : PHL	N	75	N/A	N/A	Y	Y	Y	Y: phone batteries
	2) Pax Dept to aircraft : LIS			Y	Y	Y	Y	Y	
148	1)Pax dept: to aircraft: SEA	Y	65	N/A	N/A	Y	Y	Y	N
150	1) Crew from aircraft to T5	N	45	N/A	N/A	Y	Y	Y	N
157	1) Pax Dept: to aircraft : LUN	N	65	No view due pax on board	No view due pax on board	No view due pax on board	No view due pax on board	No view due pax on board	Y: User logged off during interview
	2) Crew from aircraft to T5			Y	Y	Y	Y	Y	
171	1) Crew from aircraft to T5	Y	80	N/A	N/A	Y	Y	Y	N

Table C4--2:

Participant Observation: Researcher's General Observations -1(4)

Subject Code	Interview Location	General observations and comments
011	After task at safe area on T5C apron	• Participant completed interview, but did not offer further views or comments on RMS. • After interview was concluded, participant coached researcher back to the SAA building where it was realised that the time spent with the participant had gone into his '59mins'.
015	After task, at safe area of T5C apron	• RDT status was as arrived at destination and participant did not end task until interview was completed. • Researcher struggled to keep the participants focus on the interview questions, as many subjects were discussed which were related to BA but outside the scope of this study.
035	Prior to observation as waited sometime before pax had boarded coach	• 1st task: Requested pax were coached to new aircraft as original flight was grounded due technical reasons. Driver explained he received his task as an 'immediately'. However when we arrived to the pax dept gate pax did not board the coach until 30mins after. No information was provided to driver about the delay either via RDT or radio. • 2nd task: Shortly after participant had coached pax to aircraft, aircraft dispatcher advised that a pax was late boarding, as such was still at pax dept gate. Dispatcher requested participant to return back to gate to collect pax. Participant accepted 2nd task from dispatcher, and returned back to pax dept gate. Participant advised that from experience it would take far too long for the allocators to call back and it would be far quicker for the pax to just be collected now to get the flight out on time. It was assumed that the aircraft dispatcher informed the allocators as when returning back to the aircraft after collecting the last pax, the allocator contacted the participant to confirm the dispatcher's request. Storno radio was used for communication and not the RDT.

Table C4--2:

Participant Observation: Researcher's General Observations -2(4)

Subject Code	Interview Location	General observations and comments
073	After task, outside SAA	• Aircraft just arrived at domestic stand. As flight was from DUS, pax needed to be coached to international departures to clear customs immigration. • Joined the participant 30mins into the task. Participant waiting for aircraft steps to allow pax to disembark aircraft. (Aircraft jetty could not have been used as would have led pax to domestic arrivals and not international). PSU was also the coach, and although it was a further 30mins before the pax disembarked the aircraft, the researcher waited until after the task had been completed to conduct interview due to data protection.
075	After task at safe area of T5C apron	• Participant explained that training on RMS was initially provided prior to the full working practices change and T5 opening. Due to difficulties the system was rolled back and further training was later provided when the system went live 6 months prior to T5 opening..
083	in safe area on the apron, after 2nd task	• Participant pressed end'' on 1st task, 2nd task was allocated to him almost immediately.
112	Started prior to task, resumed after task at safe area on apron	• Participant noted down task and explained that he still uses the paperwork provided to note down details of tasks in case system crashes, and also to review what tasks he has carried out during the shift.
114	After task and outside SAA building	• User discussed that he spent a lot of time on flight simulator software • Participant advised he trained as an apprentice engineer
118	After task, near pax departures under gate 22	• Older style bus that did not have any seats near the front – as such unable to view RDT usage • Driver seemed to be cooperative. However did answer most questions as totally agree (including 1.04 & 1.05 and 4.04 & 4.07)

Table C4--2:

Participant Observation: Researcher's General Observations -3(4)

Subject Code	Interview Location	General observations and comments
129	Took place in a safe area on the apron after 1st task.	• RTD batteries very low holder in coach did not charge RTD • 'Immediately' message came through for task at T3. Although when arrived at T3 flight had not closed, waited further 20mins before coach was required.
148	No interview	• Joined participant when pax were already boarded on the coach. RMS was briefly discussed, however the researcher felt that it was not professional to carry out this discussion where passengers could overhear, as comments related to BA could have been negative • It was noted that driver wrote down all tasks during his shift. The participant explained that this is carried out as 'you never know when the system is going to crash'. The participant headed back to the SAA building and advised the researcher that she would be dropped off there. Several attempts were made to request the participant to answer the interview questions, however, this was unsuccessful. Upon retuning back to the SAA building it was made known that the researcher was within the participants 59 minutes to the end of his shift.
150	After task in a safe area T5 apron	• Request to coach flight crew from aircraft to T5 arrivals. One crew member came over during the journey and was interested in my study. He explained that as a host for T5 last year one of his roles was to test the RMS for another department and outside the researchers study scope. • Driver very accepting of the technology and understood the need for change.

Table C4--2:

Participant Observation: Researcher's General Observations -4(4)

Subject Code	Interview Location	General observations and comments
157	Started on way to 2nd task. Resumed & completed after 2nd task in safe area on T5 apron	• 1st task: Joined participant when pax had boarded coach, as such unable to view RTD usage • Driver found it difficult to answer interview questions whilst driving and not being able to see the answer format. As such I stopped and resumed once second tasks had been completed. • User logged RDT off at the time of me resuming the interview – giving no reason when asked. • User had lots of comments to make about the work, supervisors managers etc unrelated to RMS.
171	After task outside the SAA building	• User was very open with his views. Although he was positive about RMS and RDT he suggested many improvements. • Explained an incident where he had been advised on RTD that he was the 'last bus'. This implied that when the dispatcher at the aircraft receives the pax from the last bus – once these set of pax boarded the flight is ready to depart. User advised that when he arrived at the aircraft and his pax had boarded, the aircraft had moved off stand positioning for take off. Then bus that left before him at pax dept arrived at the stand with 40more pax. The aircraft was told to move back into position. User advised that this was the fault of the information provided by the allocators to the RDT – and not having any facility to get more further information • Explained an incident that happened when he had been provided with the incorrect information. Allocators had directed him to domestic arrivals once he collected pax from an inbound international flight. If this had been carried out, pax would have walked straight through domestic arrivals, by passing immigration/customs and baggage..

Table C4--3:

Participant Observations: User's (Participant's) comments – 1(2)

Subject Code	User RDT comments
011	• No further comments
015	• Time provided to complete a task is not long enough • Call back option is useless as calls never returned.
035	• Questioning the term used 'immediately' on the task when PSU was not ready for them for another 30mins. • Good easy system although always room for improvement • Stated that the allocators 'never'call back when the call back has been requested. • Device too bulky • Would be useful for RMS to provide us with further information for instance the delay on this flight and when can the pax be expected to board.
073	• Font to small – have to take glasses off • Immediately term used is useless – used far to often for non-urgent tasks • Suspect allocators override system which makes it less efficient.
075	• Call back option useless • Not all Information provided by allocators is accurate (strongly disagree on Q2.3)
083	• Very good process and enjoy using the system
112	• Touch screen was often an issue as sometimes the command submitted was not recognised and on many occasions arrived at his destination finding that the RDT showed that he had not 'set off' • User advised tasks are still written down in case of system crashes
114	• Enjoy using system • Concerned that information provided by allocators is not always correct and accurate • Concerned that allocators override the task allocations – which impacts the 'fairness' of task allocation • System good in theory but in practice not so good. • Advised that this should work smoothly but doesn't • Robust but very cumbersome and wish it was much smaller to permit more mobility, as with driver throughout shift. • Very much liked not needing to communicate over radio and having a quiet form of task allocation

Table C4--3:

Participant Observations: User's (Participant's) comments – 2(2)

Subject Code	User RDT comments
118	• No further comments
129	• Driver explained often issues with batteries. • Often drivers need to contact allocators 'call me' request goes unanswered. • Very impressed with the system and enjoyed using it. Particularly liked the 'no paperwork!'
148	• Never know when the system is going to crash
150	• Very simple system – like using it • Suggested it would be a good idea to have more information available to them via RTD. As we rely too much on the PSU or dispatcher to provide me with information.
157	• Driver expressed his overwhelming concern with the cost of the RMS system. He commented that RMS should not have been bought because of the high costs and that BA will not be able to get their money back, and showed this as an example where BA throws away money. • However, when asked about ROI in the interview question 3.1 he contradicted his comments and totally agreed that RMS significantly reduces BA's cost.
171	• More information is needed. Being advised of pax numbers or notification of delays would be very helpful • No history of tasks completed through out shift. This would be very useful as there is still a need to write tasks down. • Call back goes ignored, Urgent button asks what service do you require police or ambulance • Accuracy of information provided by allocators needs to be addressed.

Appendix C-5:

Participants' Questionnaire-Tabulation of Responses

The interviews with the participants had 9 major sections with a total of 113 questions. The choice of each section was explained in Chapter 3.

The following will explain the layout of the tables in this appendix

- The tables (Tables C5-1 to C5-9) have the same format as the questionnaire with added space for responses and calculations
- Most of the questions were based on the Likert (1932) format with a range of 5 possible answers ranging from Totally Agree to Strongly Disagree.
- In the calculating the distribution of responses, the following values were given to each response

Response	Totally Agree	Agree	Neutral	Disagree	Strongly Disagree
Value	5	4	3	2	1

- In the tables, a cross was inserted in the appropriate box for each participant's answer.
- The box with the most responses in highlighted in blue
- A weighted average was calculated by multiplying the number in the box by the assigned value
- The response box closest to the weighted value is highlighted in yellow
- For questions that had a range of responses, an attempt was made to determine any trends by inserting the responses from each ethnic background and each level of experience. Neutral Responses were ignored
- Two groups were identified, Group 1 (Totally Agree and Agree) and Group 2 (Disagree and Strongly Disagree)
- The percentage of each of these groups were calculated

Table C5-1: Perceived Ease of Use (1/3)

Section 1: **Measurements : Perceived ease of use : (Table A-1 : PEOU)** The degree to which a person believes that using a particular system would be free of effort.								Sample Population	Weighted Avg	Comment
How would you rate the following comments :										
Number	**Question**	**Level of Measureme**	**Results**							
			5	**4**	**3**	**2**	**1**			
1.01	The user interface is easy to use	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree			
			XXXXXX XXXX	XXX						
		Total	10	3				13	4.8	
		%	77%	23%	0%	0%	0%			
1.02	The font is easy to read	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree			
			XXXXXX XXX	XXX		X				The subject who disagreed wore glasses
			9	3		1		13	4.5	
			69%	23%	0%	8%	0%			
1.03	The colours used make it easy to view	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree			
			XXXXXX XXXXX	XX						
			11	2				13	4.8	
			85%	15%	0%	0%	0%			
1.04	The messages are friendly	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree			
			XXXXXX X	XXX	XX	X				
			7	3	2	1		13	4.2	
			54%	23%	15%	8%	0%			
1.05	The messages are confrontational	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree			
			X	X	XXXXXX	XXXX	X			I believe that the subject that answered "totally agree" did not understand the question
			1	1	6	4	1	13	2.8	
			8%	8%	46%	31%	8%			
		Culture	A	A	CCCCAA	ACAA	A			
		Asian	2		2	4		8		
		Caus	0		4	1		5		
		Asian	25%			50%				
		Caus	0%			20%				
		Experience	L	H	LLLHHH	HHL	HL			
		11-20 yrs	1		3	2		6		
		20+ yrs	1		3	3		7		
		11-20 yrs	17%			33%				
		20+ yrs	14%			43%				

Table C5-1: Perceived Ease of Use (2/3)

Section 1: **Measurements : Perceived ease of use : (Table A-1 : PEOU)** The degree to which a person believes that using a particular system would be free of effort.								Sample Population	Weighted Avg
How would you rate the following comments :									
Number	**Question**	**Level of Measureme**	**Results**						
			5	**4**	**3**	**2**	**1**		
1.06	RMS system was easy to learn	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX XXXXX	XX					
			11	2				13	4.8
			85%	15%	0%	0%	0%		
1.07	RMS system procedures are easy to remember	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX XXXXX	XX					
			11	2				13	4.8
			85%	15%	0%	0%	0%		
1.08	The information is easy to understand	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX	XXX					
			10	3				13	4.8
			77%	23%	0%	0%	0%		
1.09	RMS keys and abbreviations are easy to remember (i.e. CD:crew departure)	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX XXX	XXX	X				
			9	3	1			13	4.6
			69%	23%	8%	0%	0%		
1.10	Sufficient training was provided for RMS use	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX XXXXX	XX					
			11	2				13	4.8
			85%	15%	0%	0%	0%		
1.11	Time between training and actual live usage was sufficient	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX X	XXXX	XX				
			7	4	2			13	4.4
			54%	31%	15%	0%	0%		
			85%						
		Culture	AACCCA A	CAA	CA				
		Asian	7		1	0		8	
		Caus	3		1	0		4	
		Asian	88%			0%			
		Caus	75%			0%			
		Experience	LHHLHH	HLL	LHH				
		11-20 yrs	5		1			6	
		20+ yrs	5		2			7	
		11-20 yrs	83%			0%			
		20+ yrs	71%			0%			

Table C5-1: Perceived Ease of Use (3/3)

Section 1: **Measurements : Perceived ease of use : (Table A-1 : PEOU)** The degree to which a person believes that using a particular system would be free of effort.								Sample Population	Weighted Avg
How would you rate the following comments :									
Number	**Question**	**Level of Measureme**	**Results**						
			5	**4**	**3**	**2**	**1**		
1.12	User support at initial stages of use was sufficient	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXXXX	XXX	X	X			
			8	3	1	1		13	4.4
			62%	23%	8%	8%	0%		
		Culture	CAACCA	CAA	A	C			
		Asian	7		1	0		8	
		Caus	4		0	1		5	
		Asian	88%			0%			
		Caus	80%			20%			
		Experience	LLHHHH	LLH	H	L			
		11-20 yrs	5			1		6	
		20+ yrs	6		1	0		7	
		11-20 yrs	83%			17%			
		20+ yrs	86%			0%			
1.13	Reference guides provided were sufficient	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXXXX	XXX	X	X			
			8	3	1	1		13	4.4
			62%	23%	8%	8%	0%		
		Culture	ACCCAA	CAC	A	A			
		Asian	6		1	1		8	
		Caus	5		0	0		5	
		Asian	75%			13%			
		Caus	100%			0%			
		Experience	LHLHHHL	LHL	M	M			
		11-20 yrs	5			1		6	
		20+ yrs	5		1	1		7	
		11-20 yrs	83%			17%			
		20+ yrs	71%			14%			
1.14	To what degree would you rate the RMS system easy to use?	Interval	0-19%	20-39%	40-59%	60-79%	80-100%		
							XXXXXXXXXXXX		
							13	13	1.0
			0%	0%	0%	0%	100%		
1.15	Do you have any further comments to make on the actual use of the RMS system?	Open	No	XXXXXXXXXXXXX			13	100%	
			Yes				0	0%	

Table C5-2: Perceived Usefulness (1/4)

Section 2: **Measurements : Perceived usefulness : (Table A-1: U or PU)** The degree to which a person believes that using a particular system would enhance his or her job								Sample Population	Weighted Avg
How would you rate the following comments :									
Number	**Question**	**Level of Measurement**	**Results**						
			5	**4**	**3**	**2**	**1**		
2.01	Compared to previous procedures the RMS system has made my job easier	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXXXX	XX	XX	X			
		Total	8	2	2	1		13	4.3
		%	62%	15%	15%	8%	0%		
2.02	Compared to the previous procedures the RMS system has enabled me to be more efficient	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXXXX	XX	XXX				
			8	2	3			13	4.4
			62%	15%	23%	0%	0%		
2.03	I can rely 100% on the accuracy of the information that RMS gives me	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXX		X	XXXXX	XXXX		
			3		1	5	4	13	2.5
			23%	0%	8%	38%	31%		
		Culture	AAA		C	CCACA	AACA		
		Asian	3			5		8	
		Caus	0		1	4		5	
		Asian	38%			63%			
		Caus	0%			80%			
		Experience	LLH		L	HHHLL	HHLH		
		11-20 yrs	2		1	3		6	
		20+ yrs	1		0	6		7	
		11-20 yrs	33%			50%			
		20+ yrs	14%			86%			
2.04	RMS response times are acceptable	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XX	XXXX	XX	XXXXX			
			2	4	2	5		13	3.2
			15%	31%	15%	38%	0%		
		Culture	AA	AAC	CA	CACCA			
		Asian	4		1	3		8	
		Caus	1		1	3		5	
		Asian	50%			38%			
		Caus	20%			60%			
		Experience	HL	LHH	HHL	LHLHL			
		11-20 yrs	2		1	3		6	
		20+ yrs	3		2	2		7	
		11-20 yrs	33%			50%			
		20+ yrs	43%			29%			

Table C5-2: Perceived Usefulness (2/4)

Section 2: **Measurements : Perceived usefulness : (Table A-1: U or PU)** The degree to which a person believes that using a particular system would enhance his or her job								Sample Population	Weighted Avg
How would you rate the following comments :									
Number	**Question**	**Level of Measurement**	**Results**						
			5	**4**	**3**	**2**	**1**		
2.05	RMS response times cause me delay	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XX	XXX	XXXXX	XX	X		
			2	3	5	2	1	13	3.2
			15%	23%	38%	15%	8%		
		Culture	CA	ACC	ACCAA	AA	A		
		Asian	3		2	3		8	
		Caus	3		2	0		5	
		Asian	38%			38%			
		Caus	60%			0%			
		Experience	LL	HHL	HLHHH	HL	L		
		11-20 yrs	3		1	2		6	
		20+ yrs	2		4	1		7	
		11-20 yrs	50%			33%			
		20+ yrs	29%			14%			
2.06	The user interface leads me to make fewer errors	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX	XXXXX	XX				
			6	5	2			13	4.3
			46%	38%	15%	0%	0%		
2.07	The RMS system has significantly reduced communication errors.	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX	XXX	X	XX			
			7	3	1	2		13	4.2
			54%	23%	8%	15%	0%		
		Culture	AAAAAA	CCA	C	CC			
		Asian	8		0	0		8	
		Caus	2		1	2		5	
		Asian	100%			0%			
		Caus	40%			40%			
		Experience	LHHHLL	HLH	L	HH			
		11-20 yrs	5		1	0		6	
		20+ yrs	5		0	2		7	
		11-20 yrs	83%			0%			
		20+ yrs	71%			29%			

Table C5-2: Perceived Usefulness (3/4)

Section 2: **Measurements : Perceived usefulness : (Table A-1: U or PU)** The degree to which a person believes that using a particular system would enhance his or her job								Sample Population	Weighted Avg
How would you rate the following comments :									
Number	**Question**	**Level of Measurement**	**Results**						
			5	**4**	**3**	**2**	**1**		
2.08	The RMS system has enhanced my job performance	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXXXX	XX	XXX				
			8	2	3			13	4.4
			62%	15%	23%	0%	0%		
		Culture	AACAAA	CC	ACC				
		Asian	7		1	0		8	
		Caus	3		2	0		5	
		Asian	88%			0%			
		Caus	60%			0%			
		Experience	LHHHLH	LH	HHL				
		11-20 yrs	5		1	0		6	
		20+ yrs	5		2	0		7	
		11-20 yrs	83%			0%			
		20+ yrs	71%			0%			
2.09	Sufficient procedures are in place if RMS is unusable	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXXXXX	XXX		X			
			9	3		1		13	4.5
			69%	23%	0%	8%	0%		
		Culture	AAACAA	CCA		C			
		Asian	8		0	0		8	
		Caus	4		0	1		5	
		Asian	100%			0%			
		Caus	80%			20%			
		Experience	HLHHLL	LHL		H			
		11-20 yrs	6			0		6	
		20+ yrs	6			1		7	
		11-20 yrs	100%			0%			
		20+ yrs	86%			14%			
2.10	The RMS system has reduced the stress of my job	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX	XX	XXX	XX			
			5	2	4	2		13	3.8
			38%	15%	31%	15%	0%		
		Culture	AAAAA	CC	CAAC	AC			
		Asian	5		2	1		8	
		Caus	2		2	1		5	
		Asian	63%			13%			
		Caus	40%			20%			
		Experience	LHLLL	HH	LHHL	HH			
		11-20 yrs	4		2	0		6	
		20+ yrs	3		2	2		7	
		11-20 yrs	67%			0%			
		20+ yrs	43%			29%			

Table C5-2: Perceived Usefulness (4/4)

Section 2: **Measurements : Perceived usefulness : (Table A-1: U or PU)** The degree to which a person believes that using a particular system would enhance his or her job								Sample Population	Weighted Avg
How would you rate the following comments :									
Number	**Question**	**Level of Measurement**	**Results**						
			5	**4**	**3**	**2**	**1**		
2.11	The RMS system has greatly reduced my paperwork	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXXXXX		XX	XX			
			9		2	2		13	4.2
			69%	0%	15%	15%	0%		
		Culture	AAACAA		CC	CC			
		Asian	8		0	0		8	
		Caus	1		2	2		5	
		Asian	100%			0%			
		Caus	20%			40%			
		Experience	LLMMM		LH	HL			
		11-20 yrs	4		1	1		6	
		20+ yrs	5		1	1		7	
		11-20 yrs	67%			17%			
		20+ yrs	71%			14%			
2.12	Overall to what degree would you rate the RMS system useful? %	Interval	0-19	20-39	40-59	60-79	80-100		
						XXXXX	XXXXXX		
						5	8	13	1.4
			0%	0%	0%	38%	62%		
2.13	Do you have any further comments to make on the usefulness or effectiveness of the RMS system?	Open	No	XXXXXXXXXXXXX			13	100%	
			Yes				0	0%	

Table C5-3: Subjective Norm (1/2)

Section 3: **Measurements : Subjective Norm (Table A-1: SN)** Individuals perception that most people who are important to the individual think that he/she should or should								Sample Population	Weighted Avg
How would you rate the following comments :									
Number	Question	Level of Measurement	Results						
			5	**4**	**3**	**2**	**1**		
3.01	The RMS system significantly reduces BA's cost	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX		XX	XXXXX			
		Total	6		2	5		13	3.5
		%	46%	0%	15%	38%	0%		
		Culture	AACAAA		CC	ACACA			
		Asian	5		0	3		8	
		Caus	1		2	2		5	
		Asian	63%			38%			
		Caus	20%			40%			
		Experience	LHHLLL		LL	HHHHH			
		11-20 yrs	4		2	0		6	
		20+ yrs	2		0	5		7	
		11-20 yrs	67%			0%			
		20+ yrs	29%			71%			
3.02	The RMS system significantly improves BA's efficiency	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX	XXXX	XX	X			
			6	4	2	1		13	4.2
			46%	31%	15%	8%	0%		
		Culture	ACAAAA	CCA	AA	CC			
		Asian	6		2	0		8	
		Caus	3		2	0		5	
		Asian	75%			0%			
		Caus	60%			0%			
		Experience	LHHLLLH	LLH	HH	H			
		11-20 yrs	6		0	0		6	
		20+ yrs	4		2	1		7	
		11-20 yrs	100%			0%			
		20+ yrs	57%			14%			
3.03	Managers have motivated me to accept the RMS system	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX	XXXX	XX				
			7	4	2			13	4.4
			54%	31%	15%	0%	0%		
3.04	Most people who are important to me at work would be happy with my use of the RMS system	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX	X	XXXX				
			8	1	4			13	4.3
			62%	8%	31%	0%	0%		

Table C5-3: Subjective Norm (2/2)

Section 3: **Measurements : Subjective Norm (Table A-1: SN)** Individuals perception that most people who are important to the individual think that he/she should or should								Sample Population	Weighted Avg
How would you rate the following comments :									
Number	Question	Level of Measurement	Results						
			5	**4**	**3**	**2**	**1**		
3.05	The other drivers use the RMS system correctly	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXX	XXX	XXXXX				
			5	3	5			13	4.0
			38%	23%	38%	0%	0%		
3.06	Managers believe the RMS system is used correctly by the drivers	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXX	XXXX	XXXXX	X			
			3	4	5	1		13	3.7
			23%	31%	38%	8%	0%		
		Culture	ACA	CACA	CAAAA	C			
		Asian	4		4	0		8	
		Caus	3		1	1		5	
		Asian	50%			0%			
		Caus	60%			20%			
		Experience	HLL	HHLL	LLHHH	H			
		11-20 yrs	4		2	0		6	
		20+ yrs	3		3	1		7	
		11-20 yrs	67%			0%			
		20+ yrs	43%			14%			
3.07	Do you have any further comments to make on this subject?	Open	No	XXXXXXXXXXXXX			13	100%	
			Yes				0	0%	

Table C5-4: Attitude (1/2)

Section 4 **Measurements : Attitude (Table A-1: A)** Individuals positive or negative feelings about performing certain behaviour								Sample Population	Weighted Avg
How would you rate the following comments :									
Number	Question	Level of Measurement	Results						
			5	**4**	**3**	**2**	**1**		
4.01	I enjoy using the RMS system	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX	XXXXX	XX				
			6	5	2			13	4.3
			46%	38%	15%	0%	0%		
4.02	The RMS system is good for drivers	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXX	XXXXX	XX	X			
			5	5	2	1		13	4.1
			38%	38%	15%	8%	0%		
4.03	The RMS system is good for BA	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX	XXXXXX					
			7	6				13	4.5
			54%	46%	0%	0%	0%		
4.04	The RMS system has protected jobs	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XX	X	XXXXXX	X	XX		
			2	1	7	1	2	13	3.0
			15%	8%	54%	8%	15%		
		Culture	AA	C	CCACCA	A	AA		
		Asian	2		3	3		8	
		Caus	1		4	0		5	
		Asian	25%			38%			
		Caus	20%			0%			
		Experience	HL	H	LLHLHHL	H	LH		
		11-20 yrs	1		4	1		6	
		20+ yrs	2		3	2		7	
		11-20 yrs	17%			17%			
		20+ yrs	29%			29%			
4.05	It is important that the RMS system provides me accurate information	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX XXXXXX	X					
			12	1				13	4.9
			92%	8%	0%	0%	0%		

Table C5-4: Attitude (1/2)

Section 4 **Measurements : Attitude (Table A-1: A)** Individuals positive or negative feelings about performing certain behaviour									Sample Population	Weighted Avg
How would you rate the following comments :										
Number	Question	Level of Measurement	Results							
			5	**4**	**3**	**2**	**1**			
4.06	The RMS system should be upgraded to enable me to answer passengers queries	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree			
			XXXXXX X		X	XXX	XX			
			7		1	3	2		13	3.5
			54%	0%	8%	23%	15%			
4.07	The RMS system has directly caused job loses	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree			
			XXXX	X	XXXXX	XX	X			
			4	1	5	2	1		13	3.4
			31%	8%	38%	15%	8%			
		Culture	AAAA	C	ACAAC	CA	C			
		Asian	4		3	1			8	
		Caus	1		2	2			5	
		Asian	50%			13%				
		Caus	20%			40%				
		Experience	LHLL	L	HHHHH	HL	L			
		11-20 yrs	4		0	2			6	
		20+ yrs	1		5	1			7	
		11-20 yrs	67%			33%				
		20+ yrs	14%			14%				
4.08	If asked, I would contribute to discussions with regards to enhancing the RMS system	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree			
			XXXXXX XXXXX	XX						
			11	2					13	4.8
			85%	15%	0%	0%	0%			
4.09	If asked, I would contribute to discussions with regards to suggesting resolutions to RMS issues	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree			
			XXXXXX XXXXX	XX						
			11	2					13	4.8
			85%	15%	0%	0%	0%			
4.10	Are there any strong feelings you have on advantages or disadvantages of the RMS system ?	Open	No				13		100%	
			Yes				0		0%	

Table C5-5: Behavioural Intention (1/2)

Section 5: **Measurements : Behavioural Intention: (Table A-1: BI)** Measure of an individuals intention to perform a specific behaviour								Sample Population	Weighted Avg
How would you rate the following comments:									
Number	**Question**	**Level of Measuremen**	**Results**						
			5	**4**	**3**	**2**	**1**		
5.01	I am very concerned if I get passengers to an aircraft late	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX XXXXXX		X				
			12		1			13	4.8
			92%	0%	8%	0%	0%		
5.02	I intend to work within the time scales that the RMS system permits	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX XXXXXX		X				
			12		1			13	4.8
			92%	0%	8%	0%	0%		
5.03	My intention is to fully utilise the RMS system	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX	XX					
			11	2				13	4.8
			85%	15%	0%	0%	0%		
5.04	If this was an voluntary system I would chose to use it	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX XXXXX	X	X				
			11	1	1			13	4.8
			85%	8%	8%	0%	0%		
5.05	I am aware of how the RMS system is intended to be used and I follow that standard	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX XXXX	XXX					
			10	3				13	4.8
			77%	23%	0%	0%	0%		

Table C5-5: Behavioural Intention (2/2)

Section 5: **Measurements : Behavioural Intention: (Table A-1: BI)** Measure of an individuals intention to perform a specific behaviour								Sample Population	Weighted Avg
How would you rate the following comments:									
Number	**Question**	**Level of Measuremen**	**Results**						
			5	**4**	**3**	**2**	**1**		
5.06	I would recommend the RMS system to be used in other organisations	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX XXXX		X	XX			
			10		1	2		13	4.4
			77%	0%	8%	15%	0%		
		Culture	CAAACA		C	CA			
		Asian	7		0	1		8	
		Caus	3		1	1		5	
		Asian	88%			13%			
		Caus	60%			20%			
		Experience	LHHHHLLLL		H	HH			
		11-20 yrs	6		0	0		6	
		20+ yrs	4		1	2		7	
		11-20 yrs	100%			0%			
		20+ yrs	57%			29%			
5.07	I would recommend the RMS system to be used in other BA departments	Interval	Totally agree	Agree	Neutral	Disagree	Strongly disagree		
			XXXXXX XXXX	X	X	X			
			10	1	1	1		13	4.5
			77%	8%	8%	8%	0%		
		Culture	CAAACA	C	C	A			
		Asian	7		0	1		8	
		Caus	4		1	0		5	
		Asian	88%			13%			
		Caus	80%			0%			
		Experience	LLLHHHHH	H	H	H			
		11-20 yrs	6		0	0		6	
		20+ yrs	5		1	1		7	
		11-20 yrs	100%			0%			
		20+ yrs	71%			14%			

Note

For Section 6 Age and Gender, there is no table "Table C5-6" as this information was analysed differently.

Table C5-7: Cultural Background (1/1)

Section 7: **Individual factors : Cultural Background (Table A-1 : IF-CB)**								Sample Population	Weighted Avg
Number	Question	Level of Measurement	Result						
			5	**4**	**3**	**2**	**1**		
7.01	Do you consider yourself to be:	Interval	Asian	Caucasian	Black	Latino	Other		
			XXXXXXXX XXXX	XXXXX					
			8	5				13	4.6
			62%	38%	0%	0%	0%		
7.02	Do you consider yourself to be:	Interval	British	Other					
			XXXXXXXX XXXX	X					
			12	1				13	4.9
			92%	8%	0%	0%	0%		
7.03	What is your nationality?	Open	British	Other					
			XXXXXXXX XXXX	X					
			12	1				13	4.9
			92%	8%	0%	0%	0%		
7.04	Where were you born?	Open	UK	India	Other				
			XXXXXXX	XXXX	XXX				
			6	4	3			13	4.2
			46%	31%	23%				
7.05	Where were your parents born	Open	UK	India	Other				
			XXXXXX	XXXXXXXX XXXXXX	XXX				
			7	15	4			26	4.1
			27%	58%	15%	0%	0%		

Table C5-8: Intellectual Capacity (Skills Set) (1/4)

Section8: **Individual Factors: Skill Set (Intellectual Capacity) (Table A-1 : IF-IC)**								Sample Population	Weighted Avg
Number	Question	Level of Measurement	Results						
	Education		**5**	**4**	**3**	**2**	**1**		
8.01	At what age did you enter the workforce?:	Interval	<17	18	19	20	21>		
			XXXXX	XX	X	X	XXXX		
			5	2	1	1	4	13	3.2
			38%	15%	8%	8%	31%		
		Culture	CCCCA	AA	C	A	AAAA		
		Asian	7		0	1		8	
		Caus	3		1	1		5	
		Asian	88%			13%			
		Caus	60%			20%			
		Experience	LLLHH	HH	L	L	LHHH		
		11-20 yrs	3		1	2		6	
		20+ yrs	4		0	3		7	
		11-20 yrs	50%			33%			
		20+ yrs	57%			43%			
8.02	Have you been in the forces?	Nominal	Yes	No					
				XXXXXXXX XXXXX					
				13				13	
			0%	100%					
8.03	Academic education	Interval	None	O-level	A-level	Degree	Postgrad		
			X	XXXXXXXX XXX	XX				
			1	10	2			13	3.9
			8%	77%	15%	0%	0%		
8.04	Professional education/training	Nominal	Yes	No					
			XXXXXXXX						
			13					13	
			100%	0%					
8.05	Adult further education	Nominal	Yes	No					
			X	XXXXXXXX XXXXX					
			1	12				13	
			8%	92%	0%	0%	0%		

Table C5-8: Intellectual Capacity (Skills Set) (2/4)

Section8: **Individual Factors: Skill Set (Intellectual Capacity) (Table A-1 : IF-IC)**								Sample Population	Weighted Avg
Number	Question	Level of Measurement	Results						
	Interests and leisure		**5**	**4**	**3**	**2**	**1**		
8.06	Do you regularly read a newspaper ?	Nominal	Yes	No				13	4.8
			XXXXXXXX	XXX					
			10	3					
			77%	23%					
8.07	If yes what would this be?	Interval	Daily Mail	The Times	The Guardian	Local paper	Other	10	4.2
			XXXXXXXX				XX		
			8				2		
			62%	0%	0%	0%	15%		
8.08	Do you read magazines regularly	Nominal	Yes	No				13	4.5
			XXXXXXXX	XXXXXX					
			7	6					
			54%	46%					
		Culture	CAACAA	ACCAAA				8	
		Asian	4	4					
		Caus	3	2				5	
		Asian	50%	50%					
		Caus	60%	40%					
		Experience	HLLLHHH	LLHHLH				7	
		11-20 yrs	4	3					
		20+ yrs	3	3				6	
		11-20 yrs	57%	43%					
		20+ yrs	50%	50%					
8.09	Do you do Crosswords regularly	Nominal	Yes	No				13	
			X	XXXXXXXX XXXXX					
			1	12					
			8%	92%					
8.10	Do you do Sudoku regularly	Nominal	Yes	No				13	
			XXXX	XXXXXXXX					
			4	9					
			31%	69%					
8.11	Do you play chess regularly	Nominal	Yes	No				13	
			XX	XXXXXXXX XXX					
			2	11					
			15%	85%					
8.12	Do you play dominos regularly	Nominal	Yes	No				13	
			XX	XXXXXXXX XXX					
			2	11					
			15%	85%					

Table C5-8: Intellectual Capacity (Skills Set) (3/4)

Section8: **Individual Factors: Skill Set (Intellectual Capacity) (Table A-1 : IF-IC)**								Sample Population	Weighted Avg
Number	Question	Level of Measurement	Results						
	Interests and leisure		**5**	**4**	**3**	**2**	**1**		
8.13	Do you play cards regularly	Nominal	Yes	No					
			XXXXXXX	XXXXXX					
			7	6				13	
			54%	46%					
		Culture	AAACAA	CACCAA					
		Asian	5	3				8	
		Caus	2	3				5	
		Asian	63%	38%					
		Caus	40%	60%					
		Experience	LHHLLLL	LHHHHH					
		11-20 yrs	5	1				6	
		20+ yrs	2	5				7	
		11-20 yrs	83%	17%					
		20+ yrs	29%	71%					
8.14	Do you take part in pub quizzes regularly	Nominal	Yes	No					
			X	XXXXXXXX XXXXX					
			1	12				13	
			8%	92%					
8.15	How many books have you read in the last year?	Interval	More than 2 per week	Between 1 and 2 per	Between 1 and 2 per	Less than 10 a year	None		
					XXX	XXXXXX	XXXX		
					3	6	4	13	1.9
			0%	0%	23%	46%	31%		
		Culture			CAC	AACCA	CAAA		
		Asian	7		0	1		8	
		Caus	3		1	1		5	
		Asian	88%			13%			
		Caus	60%			20%			
		Experience			LMM	LMMLM	MLMM		
		11-20 yrs	7		0	1		8	
		20+ yrs	3		1	1		5	
		11-20 yrs	88%			13%			
		20+ yrs	60%			20%			

Table C5-8: Intellectual Capacity (Skills Set) (4/4)

Section8: **Individual Factors: Skill Set (Intellectual Capacity) (Table A-1 : IF-IC)**								Sample Population	Weighted Avg
Number	Question	Level of Measurement	Results						
	Interests and leisure		**5**	**4**	**3**	**2**	**1**		
8.16	Were these mostly	Interval	Mostly Fiction	Mostly fact based	Mostly Auto/ biographies	Reference	Comic books		
			XXXX	X	XXXX				
			4	1	4			9	4.0
			31%	8%	31%	0%	0%		
8.17	Would you mostly watch	Interval	News	Sport	Documentarie	Reality	Light		
			XXXXXXX	X	XX				
			7	1	2			10	4.5
			54%	8%	15%	0%	0%		
8.18	Would you listen to	Interval	Radio 1	Radio 2	Radio 4	Radio 5	Other		
			XX				XXXXXXXX		
			2				9	11	1.7
			15%	0%	0%	0%	69%		
8.19	Do you play a musical instrument?	Nominal	Yes	No					
				XXXXXXXX					
				13				13	
			0%	100%					
8.20	Do you speak a foreign language?	Nominal	Yes	No					
			XXXXXXXX	XXXX					
			9	4				13	
			69%	31%					

Table C5-9: Experience (1/4)

Section 9: **Individual Factors: Experience (Table A-1: IF-E)**								Sample Population	Weighted Avg
Number	Question	Level of Measurement	**Results**						
			5	**4**	**3**	**2**	**1**		
	Experience within role								
9.01	How many years have you been an employee of British Airways?	Interval	<1	1-5	6-10	11-20	20>		
						XXXXXX	XXXXXXX		
						6	7	13	1.5
			0%	0%	0%	46%	54%		
		Culture				AAACCA	CCACAA		
		Asian	0			8		8	
		Caus	0			5		5	
		Asian	0%			100%			
		Caus	0%			100%			
		Experience			LLLL	HHH	LLHHHH		
		11-20 yrs	4			2		6	
		20+ yrs	0			7		7	
		11-20 yrs	0%			33%			
		20+ yrs	0%			100%			
9.02	How many years have you been in this particular role within BA?	Interval	<1	1-5	6-10	11-20	20>		
					XXXXX	XXXX	XXXX		
					5	4	4	13	2.1
			0%	0%	38%	31%	31%		
		Culture			CACCA	AAAA	CCAA		
		Asian	2			6		8	
		Caus	3			2		5	
		Asian	0%			75%			
		Caus	0%			40%			
		Experience			L LLLL	HHHL	HHHH		
		11-20 yrs	5			1		6	
		20+ yrs	0			7		7	
		11-20 yrs	0%			17%			
		20+ yrs	0%			100%			
9.03	Have you had experience within this role outside of BA?	Nominal	Yes	No					
			XXXXX	XXXXXXXXXXX					
			5	8				13	4.4
			38%	62%					
		Culture	AAACA	AAACCA					
		Asian	4	4				8	
		Caus	1	4				5	
		Asian	50%	50%					
		Caus	20%	80%					
		Experience	HHHLL	HHLLHLL					
		11-20 yrs	2	4				6	
		20+ yrs	3	4				7	
		11-20 yrs	33%	67%					
		20+ yrs	43%	57%					

Table C5-9: Experience (2/4)

Section 9: **Individual Factors: Experience (Table A-1: IF-E)**								Sample Population	Weighted Avg
Number	Question	Level of Measurement	**Results**						
			5	**4**	**3**	**2**	**1**		
	Experience within role								
9.04	If yes how many years experience?	Interval	<1	1-5	6-10	11-20	20>		
				XX	X		XX		
				2	1		2	5	2.6
			0%	15%	8%	0%	15%		
		Culture		AA	A		CA		
		Asian		2	1		1	4	
		Caus					1	1	
		Asian		50%	25%				
		Caus					100%		
		Experience		HH	H		L		
		11-20 yrs					1	1	
		20+ yrs		2	2			4	
		11-20 yrs							
		20+ yrs		50%	50%				
	Experience with technology in general.								
9.05	Do you have a personal mobile phone?	Nominal	Yes	No					
			XXXXXXXX XXXXX						
			13					13	5.0
			100%	0%	0%	0%	0%		
9.06	How often do you carry it with you ?	Interval	100% of the	75% of the	50% of the	25% of the	Never		
			XXXXXXXX XXXXX						
			13					13	5.0
			100%	0%	0%	0%	0%		
9.07	How often is it turned on?	Interval	100% of the	75% of the	50% of the	25% of the	Never		
			XXXXXXXX XXXXX		X				
			12		1			13	4.8
			92%	0%	8%	0%	0%		
9.08	In a typical day how many calls do you receive/send ?	Interval	<1	1-5	6-10	11-20	20>		
			XXXXXX	XXXXXX	X				
			6	6	1			13	4.4
			46%	46%	8%	0%	0%		
9.09	And how many text messages do you receive /send?	Interval	<1	1-5	6-10	11-20	20>		
			XXXXXXXX	XXX		X			
			9	3		1		13	4.5
			69%	23%	0%	8%	0%		
9.10	Do you use the phones internet facility?	Nominal	Yes	No					
				XXXXXXXX XXXX					
				13				13	4.0
			0%	100%	0%	0%	0%		
9.11	If yes, how many sites do you visit a day?	Interval	<1	1-5	6-10	11-20	20>		
			0	0	0	0	0	0	
			0%	0%	0%	0%	0%		

Table C5-9: Experience (3/4)

Section 9: Individual Factors: Experience (Table A-1: IF-E)								Sample Population	Weighted Avg
Number	Question	Level of Measurement	Results						
			5	4	3	2	1		
	Experience within role								
9.12	Do you have an iPod/MP3 player?	Nominal	Yes	No					
			XXXXXX	XXXXXXX					
			6	7				13	4.5
			46%	54%	0%	0%	0%		
		Culture	AACACA	CAACCA					
		Asian	4	4				8	
		Caus	2	3				5	
		Asian	50%	50%					
		Caus	40%	60%					
		Experience	HHHHHH	LHHHHH					
		11-20 yrs	0	6				6	
		20+ yrs	6	1				7	
		11-20 yrs	0%	100%					
		20+ yrs	86%	14%					
9.13	How often do you carry it around with you?	Interval	100% of the	75% of the	50% of the	25% of the	Never		
			XX		XXX		X		
			2		3		1	6	3.3
			15%	0%	23%	0%	8%		
9.14	How often do you use it?	Interval	Over 5hrs per	5-2 hrs per	Less than 1 hr	Less than 1 hr	Never		
				X	XXX	X	X		
				1	3	1	1	6	2.7
			0%	8%	23%	8%	8%		
9.15	How often do you download music via internet	Interval	Over 5hrs per	5-2 hrs per	Less than 1 hr	Less than 1 hr	Never		
						X	XXXXXX		
						1	5	6	1.2
			0%	0%	0%	8%	38%		
9.16	How often do you download music from vinyl	Interval	Over 5hrs per	5-2 hrs per	Less than 1 hr	Less than 1 hr	Never		
						X	XXXXXX		
						1	5	6	1.2
			0%	0%	0%	8%	38%		
9.17	Do you have access to a PC other than at BA?	Nominal	Yes	No					
			XXXXXXXX XXXXX	X					
			12	1				13	4.9
			92%	8%	0%	0%	0%		
9.18	Do you use this :	Interval	Over 5hrs per	5-2 hrs per	Less than 1 hr	Less than 1 hr	Never		
				XXXXX	XXXXXX		X		
				4	7		1	12	3.2
			0%	31%	54%	0%	8%		
		Culture		AAAC	CACCAA		A		
		Asian	3		4	1		8	
		Caus	1		3	1		5	
		Asian	38%			13%			
		Caus	20%			20%			
		Experience		LHHH	LLLLL		HHHH		
		11-20 yrs	1		5	0		6	
		20+ yrs	3		0	4		7	
		11-20 yrs	17%			0%			
		20+ yrs	43%			57%			

Table C5-9: Experience (4/4)

Section 9: **Individual Factors: Experience (Table A-1: IF-E)**								Sample Population	Weighted Avg
Number	Question	Level of Measurement	**Results**						
			5	**4**	**3**	**2**	**1**		
	Experience within role								
9.19	How would you rate your skill on everyday applications such as word, excel etc	Interval	Expert	Competent	Good	Poor	Very poor		
				XX	XXX				
				2	3			5	3.4
			0%	15%	23%	0%	0%		
9.20	And your skill on advanced applications such as web authoring, databases etc	Interval	Expert	Competent	Good	Poor	Very poor		
					XXX				
					3			3	3.0
			0%	0%	23%	0%	0%		
9.21	Do you have access to the internet?	Nominal	Yes	No					
			XXXXXXXX XXXXXX	X					
			12	1				13	4.9
			92%	8%	0%	0%	0%		
9.22	How often do you use this?	Interval	Over 5hrs per	5-2 hrs per	Less than 1 hr	Less than 1 hr	Never		
				XXX	XXXXX	X	XXXX		
				3	5	1	4	13	2.5
			0%	23%	38%	8%	31%		
9.23	How often do you use this time on e-mail?	Interval	Always	Mostly	Sometime	Rarely	Never		
			XX	XXXX	XXXXX				
			2	4	5			11	3.7
			15%	31%	38%	0%	0%		
9.24	How often do you use this time on shopping/travel sites?	Interval	Always	Mostly	Sometime	Rarely	Never		
			X		XXXX				
			1		4			5	3.4
			8%	0%	31%	0%	0%		
9.25	How often do you use this time for research/library? (e.g. Wikipedia)	Interval	Always	Mostly	Sometime	Rarely	Never		
			XX	X	XXXX				
			2	1	4			7	3.7
			15%	8%	31%	0%	0%		
9.26	How often do you use this time for banking/ online payments?	Interval	Always	Mostly	Sometime	Rarely	Never		
			X		XXXX				
			1		4			5	3.4
			8%	0%	31%	0%	0%		
9.27	How often do you use the BA intranet & ESS tools?	Interval	Over 5hrs per	5-2 hrs per	Less than 1 hr	Less than 1 hr	Never		
					XXXXXXXX XXXX	X			
					12	1		13	2.9
			0%	0%	92%	8%	0%		
9.28	How long have you worked with the RMS system?	Interval	<6 months	6mths-1year	1-2years	2-3years	3>		
					XXXXXXXX XXXXX				
					13			13	3.0
			0%	0%	100%	0%	0%		

Appendix C-6:

Participants' Questionnaire-Comparison of Individual Responses

In this analysis of the individual responses of questionnaire, the following was carried out:

- All the answers were assigned a value between 1-5 as discussed in appendix C5
- The assigned values of all answers for each participant are tabulated for each section of the questionnaire (Tables C6-1.1 to C6-1.9).
- A summary tables compares the average of the values of the answers for each section (Table C6-2)
- A table compares the average values of the answers for Asians and Caucasians (Table C6-3)
- A table compares the average values of the answers for different levels of experience (Table C6-4)
- A graph illustrates the profile of the answers of each participant for section 1 (Fig C6-1)
- A graph illustrates the profile of the average answers of each participant for all sections of the questionnaire (Fig C6-1)

Table C6-1.1: Participants' answers based on assigned value-Section 1

Section 1	Participant												
Question	11	15	35	73	75	83	112	114	118	129	150	157	171
1	4	5	5	5	5	5	4	5	5	5	5	4	5
2	4	5	5	2	5	5	4	5	5	5	5	4	5
3	4	5	5	5	5	5	4	5	5	5	5	5	5
4	5	4	3	4	2	3	4	5	5	5	5	5	5
5	3	2	4	2	3	3	3	1	5	3	2	2	3
6	4	5	5	5	5	5	4	5	5	5	5	5	5
7	4	5	5	5	5	5	4	5	5	5	5	5	5
8	4	5	5	5	5	4	4	5	5	5	5	5	5
9	4	5	5	5	3	4	4	5	5	5	5	5	5
10	4	4	5	5	5	5	4	5	5	5	5	5	5
11	4	5	5	5	5	3	4	5	5	5	4	3	5
12	4	5	5	5	2	5	4	5	5	5	5	3	5
13	4	5	2	5	4	5	4	5	5	5	5	3	5
14	5	5	5	5	5	5	5	5	5	5	5	5	5
15	1	1	1	1	1	1	1	1	1	1	1	1	1
Avg	3.9	4.4	4.3	4.3	4.0	4.2	3.8	4.5	4.7	4.6	4.5	4.0	4.6
												Average	4.3
												Range	0.8
												Range(%)	19%

Table C6-1.2: Participants' answers based on assigned value-Section 2

Section 2	Participant												
Question	11	15	35	73	75	83	112	114	118	129	150	157	171
1	2	5	5	5	3	4	5	3	5	5	5	5	4
2	3	5	3	5	4	4	5	3	5	5	5	5	5
3	2	2	1	5	1	3	2	1	5	5	2	1	2
4	3	2	4	3	2	2	2	4	5	4	4	5	2
5	4	3	4	3	3	5	2	2	5	1	4	3	5
6	4	4	5	5	4	4	5	4	3	5	5	5	3
7	2	4	5	5	4	3	5	5	5	5	4	5	2
8	3	5	3	5	3	4	5	5	5	5	5	5	4
9	5	5	5	5	4	4	5	5	5	5	4	5	2
10	2	5	3	5	4	3	2	5	5	5	4	3	3
11	2	5	5	5	2	3	5	5	5	5	5	5	3
12	4	5	4	5	5	2	5	5	2	5	5	5	2
13	1	1	1	1	1	1	1	1	1	1	1	1	1
Avg	2.8	3.9	3.7	4.4	3.1	3.2	3.8	3.7	4.3	4.3	4.1	4.1	2.9
												Average	3.7
												Range	1.5
												Range(%)	41%

Table C6-1.3: Participants' answers based on assigned value-Section 3

Section 3	Participant												
Question	11	15	35	73	75	83	112	114	118	129	150	157	171
1	2	2	2	5	3	3	2	5	5	5	5	5	2
2	2	4	3	5	4	4	5	5	5	5	5	3	4
3	4	3	5	5	4	4	4	5	5	5	5	5	3
4	3	3	5	5	4	5	5	5	5	5	5	3	3
5	4	3	5	5	4	4	3	5	5	3	3	5	3
6	2	3	5	4	4	3	4	3	5	3	4	3	5
7	1	1	1	1	1	1	1	1	1	1	1	1	1
Avg	2.6	2.7	3.7	4.3	3.4	3.4	3.4	4.1	4.4	3.9	4.0	3.6	3.0
												Average	3.6
												Range	1.9
												Range(%)	52%

Table C6-1.4: Participants' answers based on assigned value-Section 4

Section 4	Participant												
Question	11	15	35	73	75	83	112	114	118	129	150	157	171
1	3	4	5	5	5	4	4	5	5	5	4	4	3
2	2	4	5	5	3	4	4	5	5	5	4	4	3
3	4	4	5	5	4	4	4	5	5	5	5	4	5
4	4	3	1	3	3	3	3	5	5	1	3	2	3
5	5	4	5	5	5	5	5	5	5	5	5	5	5
6	2	3	1	5	5	2	5	2	5	1	5	5	5
7	2	5	5	2	2	1	3	3	5	4	3	3	3
8	0	0	0	0	0	0	0	0	0	0	0	0	0
9	5	5	5	5	5	5	4	4	5	5	5	5	5
10	5	5	5	5	5	5	4	4	5	5	5	5	5
11	1	1	1	1	1	1	1	1	1	1	1	1	1
Avg	3.0	3.5	3.5	3.7	3.5	3.1	3.4	3.5	4.2	3.4	3.6	3.5	3.5
												Average	3.5
												Range	1.2
												Range(%)	34%

Table C6-1.5: Participants' answers based on assigned value-Section 5

Section 5	Participant												
Question	11	15	35	73	75	83	112	114	118	129	150	157	171
1	5	5	5	5	5	5	5	5	5	5	5	5	3
2	5	5	5	5	5	5	5	5	5	5	5	5	3
3	5	5	5	5	5	5	4	5	5	5	5	5	4
4	5	5	5	5	5	5	4	4	5	5	5	5	3
5	5	4	5	5	5	5	4	5	5	5	5	5	4
6	2	2	5	5	5	5	5	5	5	5	5	5	3
7	4	2	5	5	5	5	5	5	5	5	5	5	3
Avg	4.4	4.0	5.0	5.0	5.0	5.0	4.6	4.9	5.0	5.0	5.0	5.0	3.3
												Average	4.7
												Range	1.7
												Range(%)	36%

Table C6-1.07: Participants' answers based on assigned value-Section 7

Section 7	Participant												
Question	11	15	35	73	75	83	112	114	118	129	150	157	171
1	4	5	5	5	4	4	5	5	5	5	4	5	4
2	5	5	5	5	4	5	5	5	5	5	5	5	5
3	5	5	5	5	4	5	5	5	5	5	5	5	5
4	5	5	5	4	3	5	4	4	3	3	5	4	5
5	5	4	4	4	3	5	4	4	4	3	5	4	4
Avg	4.8	4.8	4.8	4.6	3.6	4.8	4.6	4.6	4.4	4.2	4.8	4.6	4.6
												Average	4.6
												Range	1.2
												Range(%)	26%

Table C6-1.8: Participants' answers based on assigned value-Section 8

Section 8	Participant												
Question	11	15	35	73	75	83	112	114	118	129	150	157	171
1	5	4	4	1	3	5	1	5	2	1	5	1	5
2	4	4	4	4	4	4	4	4	4	4	4	4	4
3	5	4	4	4	4	4	3	4	4	4	4	3	4
4	5	5	5	5	5	5	5	5	5	5	5	5	5
5	5	4	5	4	4	4	4	4	4	4	4	4	4
6	5	4	5	5	5	4	5	6	5	5	5	5	4
7	5	0	5	5	1	0	5	1	5	5	5	5	0
8	4	4	5	5	4	5	5	4	4	4	5	5	4
9	5	4	4	4	4	5	4	4	4	4	5	4	4
10	4	4	5	4	4	4	4	4	4	5	4	5	4
11	4	4	4	4	4	4	4	5	4	4	4	4	5
12	4	4	4	4	4	4	4	5	4	4	5	4	4
13	4	4	4	4	5	4	5	5	5	5	5	5	4
14	4	4	4	4	4	4	4	4	5	4	4	4	4
15	1	1	3	1	2	3	2	2	1	2	2	2	3
16	3	0	3	0	4	5	3	3	0	5	3	5	5
17	1	0	3	5	5	0	5	3	0	5	4	5	5
18	1	0	1	1	1	5	1	0	5	1	1	1	1
19	4	4	4	4	4	4	4	4	4	4	4	4	4
20	4	5	5	5	4	5	5	5	5	5	4	5	4
Avg	3.9	3.2	4.1	3.7	3.8	3.9	3.9	3.9	3.7	4.0	4.1	4.0	3.9
												Average	3.8
												Range	1.0
												Range(%)	25%

Table C6-1.9: Participants' answers based on assigned value-Section 9

Section 9	Participant												
Question	11	15	35	73	75	83	112	114	118	129	150	157	171
1	1	2	2	1	2	2	1	1	2	2	1	2	1
2	1	2	2	2	3	3	1	1	3	3	1	2	3
3	4	4	5	4	5	4	5	4	5	4	4	5	4
4	0	0	4	0	1	0	4	0	1	0	0	3	0
5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	5	5	5	5	5	5	5	5	5	5	5	5	5
7	5	5	5	5	5	5	5	5	5	5	5	4	5
8	5	4	3	5	5	4	4	5	5	4	5	4	4
9	5	4	2	5	5	4	5	5	5	5	4	5	5
10	4	4	4	4	4	4	4	4	4	4	4	0	4
11	0	0	0	0	0	0	0	0	0	0	0	0	0
12	5	4	5	4	4	4	4	5	4	4	5	5	5
13	3	0	3	0	0	0	0	5	0	0	5	3	1
14	2	0	3	0	0	0	0	4	0	0	3	3	1
15	1	0	0	0	0	0	0	0	0	0	2	1	0
16	1	0	0	0	0	0	0	0	0	0	2	0	0
17	5	5	5	5	5	4	5	5	5	5	5	5	5
18	3	3	4	3	3	0	3	3	3	4	4	4	3
19	3	0	4	0	0	0	0	3	0	0	3	4	3
20	3	0	0	0	0	0	0	3	0	0	0	0	0
21	5	5	5	5	5	4	5	5	5	5	5	5	5
22	4	1	3	2	1	0	3	3	3	4	4	4	3
23	4	0	4	3	5	0	0	3	5	3	3	4	3
24	0	0	0	0	5	0	0	3	0	3	3	0	3
25	0	0	5	4	5	0	0	3	0	3	3	0	3
26	0	0	0	0	5	0	4	3	0	3	3	0	3
27	3	3	3	3	2	3	3	3	3	3	3	3	3
28	3	3	3	3	3	3	3	3	3	3	3	3	3
Avg	2.9	2.1	3.0	2.4	3.0	1.9	2.5	3.2	2.5	2.8	3.2	2.8	2.9
												Average	2.7
												Range	1.3
												Range(%)	46%

Table C6-2: Answers: Summary of averages for each section

	Participant												
Section	11	15	35	73	75	83	112	114	118	129	150	157	171
1	3.9	4.4	4.3	4.3	4.0	4.2	3.8	4.5	4.7	4.6	4.5	4.0	4.6
2	2.8	3.9	3.7	4.4	3.1	3.2	3.8	3.7	4.3	4.3	4.1	4.1	2.9
3	2.6	2.7	3.7	4.3	3.4	3.4	3.4	4.1	4.4	3.9	4.0	3.6	3.0
4	3.0	3.5	3.5	3.7	3.5	3.1	3.4	3.5	4.2	3.4	3.6	3.5	3.5
5	4.4	4.0	5.0	5.0	5.0	5.0	4.6	4.9	5.0	5.0	5.0	5.0	3.3
7	4.8	4.8	4.8	4.6	3.6	4.8	4.6	4.6	4.4	4.2	4.8	4.6	4.6
8	3.9	3.2	4.1	3.7	3.8	3.9	3.9	3.9	3.7	4.0	4.1	4.0	3.9
9	2.9	2.1	3.0	2.4	3.0	1.9	2.5	3.2	2.5	2.8	3.2	2.8	2.9
Avg	**3.1**	**3.2**	**3.6**	**3.6**	**3.3**	**3.3**	**3.3**	**3.6**	**3.7**	**3.6**	**3.7**	**3.5**	**3.2**
												Average	3.4
												Range	0.6
												Range(%)	16%

Table C6-3: Cultural Background: Comparison of Asian and Caucasian

	Participants																	
	Asian									Caucasian						Difference	
Section	15	35	73	112	114	118	129	157	Avg	11	75	83	150	171	Avg		%
1	4.4	4.3	4.3	3.8	4.5	4.7	4.6	4.0	4.5	3.9	4.0	4.2	4.5	4.6	4.9	-0.4	-9%
2	3.9	3.7	4.4	3.8	3.7	4.3	4.3	4.1	4.3	2.8	3.1	3.2	4.1	2.9	4.1	0.1	3%
3	2.7	3.7	4.3	3.4	4.1	4.4	3.9	3.6	4.1	2.6	3.4	3.4	4.0	3.0	4.1	0.1	2%
4	3.5	3.5	3.7	3.4	3.5	4.2	3.4	3.5	4.1	3.0	3.5	3.1	3.6	3.5	4.0	0.1	3%
5	4.0	5.0	5.0	4.6	4.9	5.0	5.0	5.0	5.4	4.4	5.0	5.0	5.0	3.3	5.4	0.0	1%
7	4.8	4.8	4.6	4.6	4.6	4.4	4.2	4.6	5.5	4.8	3.6	4.8	4.8	4.6	5.2	0.3	5%
8	3.2	4.1	3.7	3.9	3.9	3.7	4.0	4.0	4.8	3.9	3.8	3.9	4.1	3.9	4.5	0.3	6%
9	2.1	3.0	2.4	2.5	3.2	2.5	2.8	2.8	3.8	2.9	3.0	1.9	3.2	2.9	3.2	0.6	15%
Avg	3.6	3.6	3.6	3.3	3.6	3.7	3.6	3.5		3.1	3.3	3.3	3.7	3.2			
							Average	**3.5**						**Average**	**3.3**		**0.2**	7%

Table C6-4: BA Experience: Comparison

	Participants																
	BA Experience; 11-20 yrs								BA Experience; <20 yrs							Difference	
Section	11	35	73	112	114	150	171	Avg	15	75	83	118	129	157	Avg		%
1	3.9	4.3	4.3	3.8	4.5	4.5	4.6	4.3	4.4	4.0	4.2	4.7	4.6	4.0	4.3	-0.1	-2%
2	2.8	3.7	4.4	3.8	3.7	4.1	2.9	3.6	3.9	3.1	3.2	4.3	4.3	4.1	3.8	-0.2	-5%
3	2.6	3.7	4.3	3.4	4.1	4.0	3.0	3.6	2.7	3.4	3.4	4.4	3.9	3.6	3.6	0.0	1%
4	3.0	3.5	3.7	3.4	3.5	3.6	3.5	3.5	3.5	3.5	3.1	4.2	3.4	3.5	3.5	0.0	-1%
5	4.4	5.0	5.0	4.6	4.9	5.0	3.3	4.6	4.0	5.0	5.0	5.0	5.0	5.0	4.8	-0.2	-5%
7	4.8	4.8	4.6	4.6	4.6	4.8	4.6	4.7	4.8	3.6	4.8	4.4	4.2	4.6	4.4	0.3	6%
8	3.9	4.1	3.7	3.9	3.9	4.1	3.9	3.9	3.2	3.8	3.9	3.7	4.0	4.0	3.8	0.1	3%
9	2.9	3.0	2.4	2.5	3.2	3.2	2.9	2.9	2.1	3.0	1.9	2.5	2.8	2.8	2.5	0.3	12%
Avg	3.1	3.6	3.6	3.3	3.6	3.7	3.2		3.2	3.3	3.3	3.7	3.6	3.5			
							Average	**3.4**						**Average**	**3.4**		**0.0**	1%

Fig C6-1: Profile of Answers to Section 1

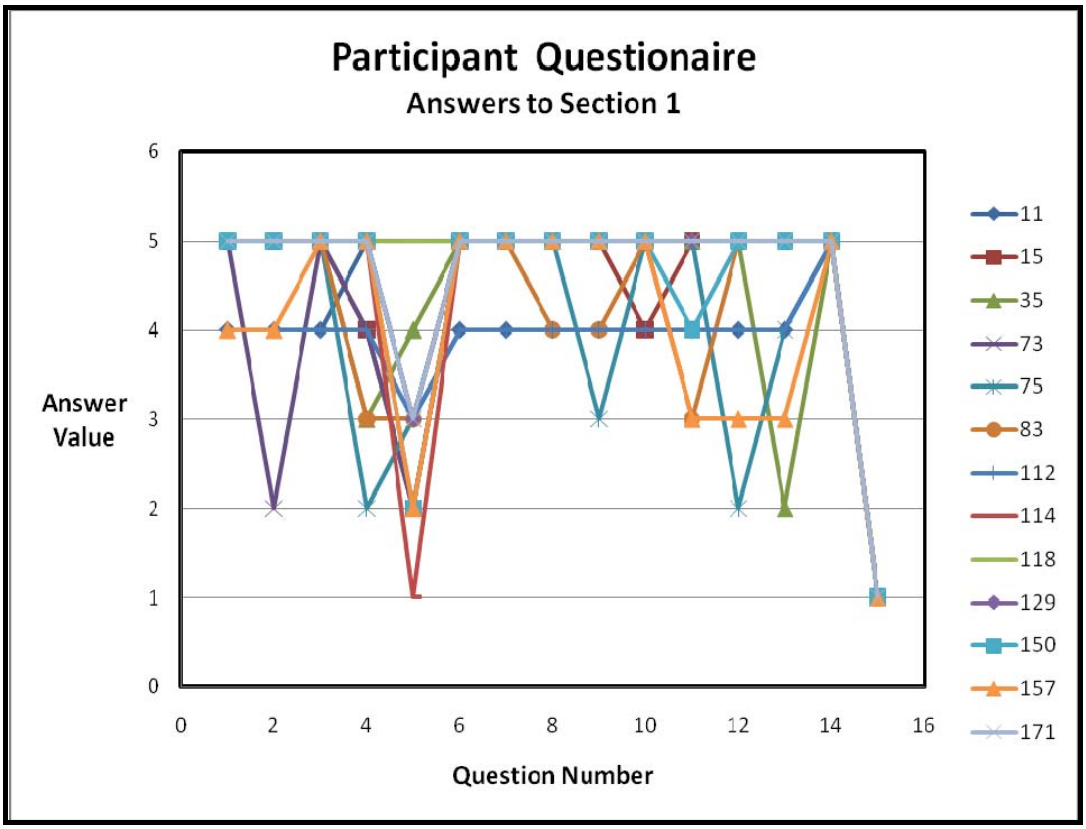


Fig C6-2: Profile of Average Value of Answers for Each Section